PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY

Caldwell Gravel Sales, Inc. (CGS)
11380 North 300 East
Morristown, Indiana 46161

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 145-14524-00060, 05056 & 05202	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: November 1, 2001 Expiration Date: November 1, 2006

TABLE OF CONTENTS

Testing Requirements [326 IAC 2-7-6(1)]
C.10 Performance Testing [326 IAC 3-6]

Compliance Requirements [326 IAC 2-1.1-11]
C.11 Compliance Requirements [326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]
C.12 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]
C.13 Maintenance of Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]
C.14 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR63]
C.15 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]
C.16 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
C.17 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]
C.18 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]
C.19 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
C.20 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]
C.21 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]
C.22 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

Portable Source Requirement
C.23 Relocation of Portable Sources [326 IAC 2-14-4]

Stratospheric Ozone Protection
C.24 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1 FACILITY OPERATION CONDITIONS: Portable Plant W-1
D.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]
D.1.2 Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]
D.1.3 Nonattainment Area Particulate Limitations: Specified [326 IAC 6-1-2]
D.1.4 Sulfur Content Limitation [326 IAC 2-2] [326 IAC 2-3]
D.1.5 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]
D.1.6 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]
D.1.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements
D.1.8 Sulfur Dioxide Emissions and Sulfur Content
D.1.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]
D.1.10 Visible Emissions Notations

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]
D.1.11 Record Keeping Requirements
D.1.12 NSPS Reporting Requirement [40 CFR Part 60.90, Subpart I] [326 IAC 12]

D.2 FACILITY OPERATION CONDITIONS: Portable Plant W-2

D.2.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]
D.2.2 Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]
D.2.3 Nonattainment Area Particulate Limitations: Specified [326 IAC 6-1-2]
D.2.4 Sulfur Content Limitation [326 IAC 2-2] [326 IAC 2-3]
D.2.5 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]
D.2.6 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]
D.2.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

D.2.8 Sulfur Dioxide Emissions and Sulfur Content
D.2.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.2.10 Visible Emissions Notations

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.11 Record Keeping Requirements
D.2.12 NSPS Reporting Requirement [40 CFR Part 60.90, Subpart I] [326 IAC 12]

D.3 FACILITY OPERATION CONDITIONS - Stationary Asphalt Plant S-1

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]
D.3.2 Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]
D.3.3 Particulate Matter (PM) [326 IAC 6-3-2]
D.3.4 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]
D.3.5 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]
D.3.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements

D.3.7 Particulate Matter (PM)
D.3.8 Sulfur Dioxide Emissions and Sulfur Content
D.3.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.10 Visible Emissions Notations
D.3.11 Parametric Monitoring
D.3.12 Baghouse Inspections
D.3.13 Broken or Failed Bag Detection

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.14 Record Keeping Requirements
D.3.15 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12] [40 CFR 60.116b]

D.4 FACILITY OPERATION CONDITIONS: Insignificant Activities Stationary Asphalt Plant S-1

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Matter (PM) [326 IAC 6-3-2]

D.5 FACILITY OPERATION CONDITIONS: Insignificant Activities Portable Plants W-1 & W-23

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Nonattainment Area PM Limitations [326 IAC 6-1]

Certification

Emergency Occurrence Report

Quarterly Deviation and Compliance Monitoring Report

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in Conditions A.1 through A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates one (1) stationary and two (2) portable asphalt plants.

Responsible Official:	Dana Caldwell
Source Address:	11380 North 300 East, Morristown, Indiana 46161
Mailing Address:	P.O. Box 212, Morristown, Indiana 46161
General Source Phone Number:	765-763-6258
SIC Code:	2951
County Location:	Shelby
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD and/or Emission Offset Rules; Minor Source, Section 112 of the Clean Air Act

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

This asphalt production company consists of three (3) plants:

(a) Portable asphalt plant W-1 (Plt Id 05056) is located at 11380 North 300 East, Morristown, Indiana;

(b) Portable asphalt plant W-2 (Plt Id 05202) is located at 11380 North 300 East, Morristown, Indiana;

(c) Stationary asphalt plant S-1 is located at 11380 North 300 East, Morristown, Indiana;

Since the three (3) plants are located on contiguous or adjacent properties, belong to the same industrial grouping and under common control of the same entity, they will be considered one (1) source, effective from the date of issuance of this Part 70 permit.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source with portable plants consists of the following emission units and pollution control devices:

Portable Asphalt Plant, known as W-1

(a) One (1) portable warm mix asphalt drum mixer, known as W1, constructed in 1967, purchased in 1994, modified and began operation in 1998, capacity: 200 tons of asphalt per hour.

(b) One (1) No. 2 fuel oil-fired dryer burner, rated at 62.0 million British thermal units per hour, exhausting through Stack W-1a, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(c) One (1) natural gas or No. 2 fuel oil-fired warm oil heater, known as W-1i, rated at 0.75 million British thermal units per hour, exhausting through Stack W-1i, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(d) One (1) diesel generator, known as E 34, rated at 205 kilowatts.

Portable Asphalt Plant, known as W-2

(e) One (1) portable warm mix asphalt drum mixer, known as W2, constructed in 1967, purchased in 1994, modified and began operation in 1998, capacity: 200 tons of asphalt per hour.

(f) One (1) No. 2 fuel oil-fired dryer burner, rated at 62.0 million British thermal units per hour, exhausting through Stack W-2a, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(g) One (1) natural gas or No. 2 fuel oil-fired warm oil heater, known as W-2i, rated at 0.75 million British thermal units per hour, exhausting through Stack W-2i, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(h) One (1) diesel generator, known as E 33, rated at 175 kilowatts.

Stationary Asphalt Plant, known as S-1

(i) One (1) hot continuous mixer, known as Kiln Hood Outlet, equipped with a baghouse, exhausted through Stack S-1a, constructed in 1989, reconstructed in June 1997, capacity: 132 tons of asphalt per hour.

(j) One (1) dryer burner, known as Burner, burning either natural gas or #2 distillate oil fuel, rated at 64.0 million British thermal units per hour, equipped with a baghouse, also exhausting through Stack S-1a, constructed in 1989, reconstructed in June 1997.

(k) One (1) Almix natural gas or No. 2 fuel oil-fired hot oil heater, known as S1a, rated at 0.75 million British thermal units per hour, exhausting through Stack Ss1, installed in 1996.

(l) One (1) Burner Hawk Star natural gas or No. 2 fuel oil-fired hot oil heater, known as S1b, rated at 0.75 million British thermal units per hour, exhausting through Stack Ss2, installed in 1996.

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source with portable plants also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) British thermal units per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight.

(b) Combustion source flame safety purging on startup.

(c) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

(d) Equipment used exclusively for the following: Packaging lubricants and greases, filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.

(e) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.

(f) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. (326 IAC 6-1)

(g) Any of the following structural steel and bridge fabrication activities: using 80 tons or less of welding consumables. (326 IAC 6-1)

(h) Paved and unpaved roads and parking lots with public access.

(i) On-site fire and emergency response training approved by the department.

(j) One (1) No. 2 fuel oil storage tank, known as Heattech, installed in 1996, exhausting through Stack St2, capacity: 20,000 gallons of fuel oil.

(k) One (1) liquid asphalt storage tank, known as S1c , installed in 1996, exhausting through Stack St1, capacity: 9 gallons.

(l) One (1) storage bin, known as Bin #1, throughput capacity of 22.4 tons of #11 stone per hour. (326 IAC 6-3-2)

(m) One (1) storage bin, known as Bin #2, throughput capacity of 52.3 tons of #11 gravel or #5 stone per hour. (326 IAC 6-3-2)

(n) One (1) storage bin, known as Bin #3, throughput capacity of 82.2 tons of #9 gravel per hour. (326 IAC 6-3-2)

(o) One (1) storage bin, known as Bin #4, throughput capacity of 74.8 tons of sand per hour. (326 IAC 6-3-2)

(p) One (1) bucket elevator. (326 IAC 6-3-2)

(q) Two (2) silos, known as Silo 1 and Silo 2 (326 IAC 6-3-2).

(r) Stockpiles: #5 Stone, #12 Dolomite, #11 Stone, Sand and #11 Gravel, #9 Stone.

(s) One (1) propane-fired space heater, rated at 0.375 million British thermal units per hour.

(t) One (1) kerosene-fired space heater, rated at 0.200 million British thermal units per hour.

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source with portable plants is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)]

This permit is issued for a fixed term of five (5) years from the original date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

B.3 Enforceability [326 IAC 2-7-7]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.4 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Supplement and Provide Information [326 IAC 2-7-4(b)] [326 IAC 2-7-5(6)(E)] [326 IAC 2-7-6(6)]

(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit or, for information claimed to be confidential, the Permittee may furnish such records directly to the U. S. EPA along with a claim of confidentiality. [326 IAC 2-7-5(6)(E)]

(c) The Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Compliance with Permit Conditions [326 IAC 2-7-5(6)(A)] [326 IAC 2-7-5(6)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; or

(3) Denial of a permit renewal application.

(b) Noncompliance with any provisions of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act.

(c) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

B.9 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

B.10 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ, may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.11 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP and the PMP extension notification do not require the certification by the

"responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

B.12 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-7-16.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.

Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.13 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that

either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits. All previously issued operating permits are superseded by this permit.

(c) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(d) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(e) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(f) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(g) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(h) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(7)]

B.14 Multiple Exceedances [326 IAC 2-7-5(1)(E)]

Any exceedance of a permit limitation or condition contained in this permit, which occurs contemporaneously with an exceedance of an associated surrogate or operating parameter established to detect or assure compliance with that limit or condition, both arising out of the same act or occurrence, shall constitute a single potential violation of this permit.

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report.

The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) Failure to implement elements of the Preventive Maintenance Plan unless such failure has caused or contributed to a deviation.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred is a deviation.

(c) Emergencies shall be included in the Quarterly Deviation and Compliance Monitoring Report.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ, determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or

other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.17 Permit Renewal [326 IAC 2-7-4]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(2) If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-7-3]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ, takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as being needed

to process the application.

(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]
If IDEM, OAQ, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.

B.18 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.19 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12 (b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1)(D)(i) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.20 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance copy of this permit; and

(5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-7-20 (b), (c), or (e) and makes such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ, in the notices specified in 326 IAC 2-7-20(b), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

B.21 Source Modification Requirement [326 IAC 2-7-10.5]
A modification, construction, or reconstruction is governed by 326 IAC 2 and 326 IAC 2-7-10.5.

B.22 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy any records that must be kept under the conditions of this permit;

(c) Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.23 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)]

(a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-0425 (ask for OAQ, Technical Support and Modeling Section), to determine the appropriate permit fee.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Matter Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2(c), the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour at stationary plant S-1.

C.2 Opacity [326 IAC 5-1]

(a) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity for stationary plant S-1 shall meet the following, unless otherwise stated in this permit:

(1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

(b) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity for portable plants W-1 and/or W-2 shall meet the following, unless otherwise stated in this permit:

(1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2. 326 IAC 9-1-2 is not federally enforceable.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on May 14, 1999. The plan is consists of applying water to unpaved and paved roads as well as storage piles on an as-needed basis and restricting the speed of trucks to 15 miles per hour for stationary plant S-1 and the two (2) storage plants.

C.7 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.8 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4(d), (e), and (f), and 326 IAC 1-7-5(d) are not federally enforceable.

C.9 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited, pursuant to the provisions of 40 CFR 61, Subpart M, is federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.10 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.11 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.12 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.13 Maintenance of Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) In the event that a breakdown of the emission monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less often than once an hour until such time as the continuous monitor is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.14 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.15 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

(b) Whenever a condition in this permit requires the measurement of a temperature, flow rate, or pH level, the instrument employed shall have a scale such that the expected normal

reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

(c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.16 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within ninety (90) days after the date of issuance of this permit.

The ERP does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.17 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present at a source in more than a threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall submit:

(a) A compliance schedule for meeting the requirements of 40 CFR 68; or

(b) As a part of the annual compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP).

All documents submitted pursuant to this condition shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.18 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. The compliance monitoring plan can be either an entirely new document, consist in whole of information contained in other documents, or consist of a combination of new information and information contained in other documents. If the compliance monitoring plan incorporates by reference information contained in other documents, the Permittee shall identify as part of the compliance monitoring plan the documents in which the information is found. The elements of the compliance monitoring plan are:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Reasonable response steps that may be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking reasonable response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to take reasonable response steps may constitute a violation of the permit.

(c) Upon investigation of a compliance monitoring excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(e) All monitoring required in Section D shall be performed at all times the equipment is operating. If monitoring is required by Section D and the equipment is not operating, then the Permittee may record the fact that the equipment is not operating or perform the required monitoring.

(f) At its discretion, IDEM may excuse the Permittee's failure to perform the monitoring and record keeping as required by Section D, if the Permittee provides adequate justification and documents that such failures do not exceed five percent (5%) of the operating time in any quarter. Temporary, unscheduled unavailability of qualified staff shall be considered a valid reason for failure to perform the monitoring or record keeping requirements in Section D.

C.19 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.20 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:

(1) Indicate estimated actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);

(2) Indicate estimated actual emissions of other regulated pollutants (as defined by 326 IAC 2-7-1) from the source, for purposes of Part 70 fee assessment.

(b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

C.21 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.22 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

(a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

Portable Plant Requirement

C.23 Relocation of Portable Plants [326 IAC 2-14-4]

(a) The portable plants covered by this permit are approved for operation in all areas of Indiana except in severe nonattainment areas for ozone (at the time of this permit's issuance these areas were Lake and Porter Counties). The portable plants covered by this permit can not be co-located at a site in an area designated as nonattainment for ozone without prior approval from IDEM, OAQ. This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2 and 40 CFR 52.21, and Emission Offset requirements in 326 IAC 2-3. A thirty (30) day advance notice of relocation must be given to IDEM, OAQ, and a "Relocation Site Approval" letter must be obtained before relocating. The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall also notify the applicable local air pollution control agency when relocating to, or from, one the following:

(1) Madison County - (Anderson Office of Air Management)

(2) City of Evansville plus four (4) miles beyond the corporate limits but not outside Vanderburgh County - (Evansville EPA)

(3) City of Gary - (Gary Division of Air Pollution)

(4) City of Hammond - (Hammond Department of Environmental Management)

(5) Marion County - (Indianapolis Air Pollution Control Agency)

(6) St. Joseph County - (St. Joseph County Health Department)

(7) Vigo County - (Vigo County Air Pollution Department)

(c) That a valid operation permit consists of this document and any subsequent "Relocation Site Approval" letter specifying the current location of the portable plant.

Stratospheric Ozone Protection

C.24 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Portable Asphalt Plant, known as W-1

(a) One (1) portable warm mix asphalt drum mixer, known as W1, constructed in 1967, purchased in 1994, modified and began operation in 1998, capacity: 200 tons of asphalt per hour.

(b) One (1) No. 2 fuel oil-fired dryer burner, rated at 62.0 million British thermal units per hour, exhausting through Stack W-1a, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(c) One (1) natural gas or No. 2 fuel oil-fired warm oil heater, known as W-1i, rated at 0.75 million British thermal units per hour, exhausting through Stack W-1i, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(d) One (1) diesel generator, known as E 34, rated at 205 kilowatts.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the portable warm mix asphalt drum mixer, known as W1, and the dryer burner described in this section except when otherwise specified in 40 CFR 60 Subpart I.

D.1.2 Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]

(a) Pursuant to NSPS Subpart I, the PM emission rate from the portable warm mix drum mixer and dryer burner exhausting through Stack W-1a shall not exceed 0.04 grains per dry standard cubic foot equivalent to 0.765 pounds per hour at a flow rate of 2,714 actual cubic feet per minute. The 2,232 dry standard cubic feet per minute flow rate is equivalent to 2,714 actual cubic feet per minute at a temperature of 150 degrees Fahrenheit and a moisture content of 5.0 percent.

(b) Pursuant to NSPS Subpart I, portable warm mix drum mixer and dryer burner exhausting through Stack W-1a shall not exhibit twenty (20%) percent opacity, or greater.

D.1.3 Nonattainment Area Particulate Limitations: Specified [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2(a), the allowable PM emissions from this portable asphalt plant W-1 shall not exceed 0.03 grains per dry standard cubic foot of exhaust air, equivalent to 0.574 pounds per hour at a flow rate of 2,714 actual cubic feet per minute.

D.1.4 Sulfur Content Limitation [326 IAC 2-2] [326 IAC 2-3]

The sulfur content of the fuel oil burned in the dryer burner, rated at 62.0 million British thermal units per hour, shall not exceed one tenth percent (0.1%S). Compliance with this sulfur content limitation renders the requirements of 326 IAC 2-2 for the entire source not applicable and 326 IAC 2-3 for portable plant W-1 not applicable.

D.1.5 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO_2 Emissions Limitations) the SO_2 emissions from the sixty-two (62.0) million British thermal units per hour dryer burner shall not exceed five tenths (0.5) pounds per million British thermal units heat input. Pursuant to 326 IAC 7-2-1, compliance shall be demon-

strated on a calendar month average. 326 IAC 7-1.1 and 326 IAC 7-2-1 are not federally enforceable.

D.1.6 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

(a) Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: asphalt paving), the owner or operator shall: not cause or allow the use of asphalt emulsion containing more than seven (7.0) percent oil distillate by volume of emulsion for any paving application except the following purposes:

(1) penetrating prime coating

(2) stockpile storage

(3) application during the months of November, December, January, February and March

(b) No cutback asphalt or emulsified asphalt shall be used at this plant without prior approval from OAQ.

D.1.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this portable drum mixer.

Compliance Determination Requirements

D.1.8 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options.

(a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds million British thermal units heat input by:

(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 62 million British thermal units per hour dryer burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within 180 days after issuance of this permit in order to demonstrate compliance with Conditions D.1.2 and D.1.3, the Permittee shall perform PM testing of the drum mixer and dryer burner exhausting through Stack W-1a utilizing methods as approved by the Commissioner. This test shall

be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.10 Visible Emissions Notations

(a) Visible emission notations of the drum mixer and dry burner stack exhaust W-1a shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.11 Record Keeping Requirements

(a) To document compliance with Conditions D.1.4 and D.1.5, the Permittee shall maintain records in accordance with (1) through (6) below.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide (SO_2) emissions;

(3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period, the natural gas fired boiler certification does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1); and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(4) Fuel supplier certifications.

(5) The name of the fuel supplier; and

(6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibra-

tion and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

(b) To document compliance with Condition D.1.10, the Permittee shall maintain records of visible emission notations of the drum mixer and dryer burner stack exhaust W-1a once per shift.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.12 NSPS Reporting Requirement [40 CFR Part 60.90, Subpart I] [326 IAC 12]

Pursuant to the New Source Performance Standards (NSPS), Part 60.90, Subpart I, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

(a) Commencement of construction date (no later than 30 days after such date);

(b) Actual start-up date (within 15 days after such date); and

(c) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

The application and enforcement of these standards have been delegated to the IDEM OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Portable Asphalt Plant, known as W-2

(e) One (1) portable warm mix asphalt drum mixer, known as W2, constructed in 1967, purchased in 1994, modified and began operation in 1998, capacity: 200 tons of asphalt per hour.

(f) One (1) No. 2 fuel oil-fired dryer burner, rated at 62.0 million British thermal units per hour, exhausting through Stack W-2a, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(g) One (1) natural gas or No. 2 fuel oil-fired warm oil heater, known as W-2i, rated at 0.75 million British thermal units per hour, exhausting through Stack W-2i, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(h) One (1) diesel generator, known as E 33, rated at 175 kilowatts.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the portable warm mix asphalt drum mixer, known as W2, and the dryer burner described in this section except when otherwise specified in 40 CFR 60 Subpart I.

D.2.2 Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]

(a) Pursuant to NSPS Subpart I, the PM emission rate from the portable warm mix drum mixer and dryer burner exhausting through Stack W-2a shall not exceed 0.04 grains per dry standard cubic foot equivalent to 0.765 pounds per hour at a flow rate of 2,714 actual cubic feet per minute. The 2,232 dry standard cubic feet per minute flow rate is equivalent to 2,714 actual cubic feet per minute at a temperature of 150 degrees Fahrenheit and a moisture content of 5.0 percent.

(b) Pursuant to NSPS Subpart I, portable warm mix drum mixer and dryer burner exhausting through Stack W-2a shall not exhibit twenty (20%) percent opacity, or greater.

D.2.3 Nonattainment area particulate limitations: specified [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2(a), the allowable PM emissions from this portable asphalt plant W-2 shall not exceed 0.03 grains per dry standard cubic foot of exhaust air, equivalent to 0.574 pounds per hour at a flow rate of 2,714 actual cubic feet per minute.

D.2.4 Sulfur Content Limitation [326 IAC 2-2] [326 IAC 2-3]

The sulfur content of the fuel oil burned in the dryer burner, rated at 62.0 million British thermal units per hour, shall not exceed one tenth percent (0.1%S). Compliance with this sulfur content limitation renders the requirements of 326 IAC 2-2 for the entire source not applicable and 326 IAC 2-3 for portable plant W-2 not applicable.

D.2.5 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO_2 Emissions Limitations) the SO_2 emissions from the sixty-two (62.0) million British thermal units per hour dryer burner shall not exceed five tenths (0.5) pounds per million British thermal units heat input. Pursuant to 326 IAC 7-2-1, compliance shall be demon-

strated on a calendar month average. 326 IAC 7-1.1 and 326 IAC 7-2-1 are not federally enforceable.

D.2.6 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

(a) Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: asphalt paving), the owner or operator shall: not cause or allow the use of asphalt emulsion containing more than seven (7.0) percent oil distillate by volume of emulsion for any paving application except the following purposes:

(1) penetrating prime coating

(2) stockpile storage

(3) application during the months of November, December, January, February and March

(b) No cutback asphalt or emulsified asphalt shall be used at this plant without prior approval from OAQ.

D.2.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this portable drum mixer.

Compliance Determination Requirements

D.2.8 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options.

(a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds million British thermal units heat input by:

(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 62 million British thermal units per hour dryer burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

D.2.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within 180 days after issuance of this permit in order to demonstrate compliance with Conditions D.2.2 and D.2.3, the Permittee shall perform PM testing of the drum mixer and dryer burner exhausting through Stack W-2a utilizing methods as approved by the Commissioner. This test shall

be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.10 Visible Emissions Notations

(a) Visible emission notations of the drum mixer and dry burner stack exhaust W-2a shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.11 Record Keeping Requirements

(a) To document compliance with Conditions D.2.4 and D.2.5, the Permittee shall maintain records in accordance with (1) through (6) below.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide (SO_2) emissions;

(3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period, the natural gas fired boiler certification does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1); and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(4) Fuel supplier certifications.

(5) The name of the fuel supplier; and

(6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibra-

tion and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

(b) To document compliance with Condition D.2.10, the Permittee shall maintain records of visible emission notations of the drum mixer and dryer burner stack exhaust W-2a once per shift.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.12 NSPS Reporting Requirement [40 CFR Part 60.90, Subpart I] [326 IAC 12]

Pursuant to the New Source Performance Standards (NSPS), Part 60.90, Subpart I, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

(a) Commencement of construction date (no later than 30 days after such date);

(b) Actual start-up date (within 15 days after such date); and

(c) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

The application and enforcement of these standards have been delegated to the IDEM OAQ. The requirements of 40 CFR Part 60 are also federally enforceable.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Stationary Asphalt Plant, known as S-1

(i) One (1) hot continuous mixer, known as Kiln Hood Outlet, equipped with a baghouse, exhausted through Stack S-1a, constructed in 1989, reconstructed in June 1997, capacity: 132 tons of asphalt per hour.

(j) One (1) dryer burner, known as Burner, burning either natural gas or #2 distillate oil fuel, rated at 64.0 million British thermal units per hour, equipped with a baghouse, also exhausting through Stack S-1a, constructed in 1989, reconstructed in June 1997.

(k) One (1) Almix natural gas or No. 2 fuel oil-fired hot oil heater, known as S1a, rated at 0.75 million British thermal units per hour, exhausting through Stack Ss1, installed in 1996.

(l) One (1) Burner Hawk Star natural gas or No. 2 fuel oil-fired hot oil heater, known as S1b, rated at 0.75 million British thermal units per hour, exhausting through Stack Ss2, installed in 1996.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the continuous mixer and dryer burner described in this section except when otherwise specified in 40 CFR 60 Subpart I.

D.3.2 Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]

(a) Pursuant to NSPS Subpart I, the PM emission rate from the hot continuous mixer exhausting through Stack S-1a shall not exceed 0.04 grains per dry standard cubic foot equivalent to 6.11 pounds per hour at a flow rate of 27,000 actual cubic feet per minute. The 17,820 dry standard cubic feet per minute flow rate is equivalent to 27,000 actual cubic feet per minute at a temperature of 300 degrees Fahrenheit and a moisture content of 5.0 percent.

(b) Pursuant to NSPS Subpart I, hot continuous mixer exhausting through Stack S-1a shall not exhibit twenty (20%) percent opacity, or greater.

D.3.3 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the hot continuous mixer shall not exceed 54.1 pounds per hour when operating at a process weight rate of 132 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.3.4 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

Pursuant to 326 IAC 7-1.1 (SO_2 Emissions Limitations) the SO_2 emissions from the sixty-four (64.0) million British thermal units per hour oil-fueled dryer burner shall not exceed five tenths (0.5) pounds per MMBtu heat input. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average. 326 IAC 7-1.1 and 326 IAC 7-2-1 are not federally enforceable.

D.3.5 Volatile Organic Compounds (VOC) [326 IAC 8-5-2]

(a) Pursuant to 326 IAC 8-5-2 (Miscellaneous Operations: asphalt paving), the owner or operator shall: not cause or allow the use of asphalt emulsion containing more than seven (7.0) percent oil distillate by volume of emulsion for any paving application except the following purposes:

(1) penetrating prime coating

(2) stockpile storage

(3) application during the months of November, December, January, February and March

(b) No cutback asphalt or emulsified asphalt shall be used at this plant without prior approval from OAQ.

D.3.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the hot continuous mixer and the dryer burner and its control device.

Compliance Determination Requirements

D.3.7 Particulate Matter (PM)

In order to comply with Conditions D.3.2 and D.3.3, the baghouse for PM control shall be in operation and control emissions from the hot continuous mixer at all times that the asphalt production processes are in operation.

D.3.8 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options.

(a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed five-tenths (0.5) pounds per million Btu heat input by:

(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification, or;

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the sixty-four (64.0) million British thermal units per hour oil-fueled dryer/burner using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

D.3.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

During the period between 60 and 180 days after issuance of this permit, in order to demonstrate compliance with Conditions D.3.2 and D.3.3, the Permittee shall perform PM testing utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.10 Visible Emissions Notations

(a) Visible emission notations of the hot continuous mixer baghouse stack exhaust S-1a shall be performed during normal daylight operations once per shift when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.3.11 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the hot continuous mixer, at least once per shift when the mixer is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 3.0 and 7.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.3.12 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the asphalt manufacturing operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.3.13 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.14 Record Keeping Requirements

(a) To document compliance with Condition D.3.4, the Permittee shall maintain records in accordance with (1) through (6) below.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period and equivalent sulfur dioxide (SO_2) emissions;

(3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period, the natural gas fired boiler certification does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1); and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(4) Fuel supplier certifications.

(5) The name of the fuel supplier; and

(6) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

(b) To document compliance with Condition D.3.5, the Permittee shall maintain records in accordance with (1) and (2) below.

(1) Calendar dates in the compliance determination period when asphalt emulsion is use, and

(2) The percent oil distillate by volume of emulsion for any paving application.

(c) To document compliance with Condition D.3.10, the Permittee shall maintain records of visible emission notations of the hot continuous mixer stack exhaust once per shift.

(d) To document compliance with Condition D.3.11, the Permittee shall maintain the following:

(1) Records of the following operational parameters during normal operation when venting to the atmosphere once per shift:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle operation.

(2) Documentation of the dates vents are redirected.

(e) To document compliance with Condition D.3.12, the Permittee shall maintain records of the results of the inspections required under Condition D.3.12 and the dates the vents are redirected.

(f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.15 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12] [40 CFR 60.116b]

The one (1) 20,000 gallon fuel oil storage tank shall comply with the New Source Performance Standards (NSPS), 326 IAC 12 (40 CFR Part 60.116b, Subpart Kb). 40 CFR Part 60.116b paragraphs (a) and (b) require the Permittee to maintain accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Records shall be kept for the life of the storage vessel.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: **Insignificant Activities Stationary Plant S-1**

(a) One (1) storage bin, known as Bin #1, throughput capacity of 22.4 tons of #11 stone per hour. (326 IAC 6-3-2)

(b) One (1) storage bin, known as Bin #2, throughput capacity of 52.3 tons of #11 gravel or #5 stone per hour. (326 IAC 6-3-2)

(c) One (1) storage bin, known as Bin #3, throughput capacity of 82.2 tons of #9 gravel per hour. (326 IAC 6-3-2)

(d) One (1) storage bin, known as Bin #4, throughput capacity of 74.8 tons of sand per hour. (326 IAC 6-3-2)

(e) One (1) bucket elevator. (326 IAC 6-3-2)

(f) Two (2) silos, known as Silo 1 and Silo 2. (326 IAC 6-3-2)

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3, the particulate matter (PM) from the four (4) storage bins, one (1) bucket elevator and two (2) silos shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Insignificant Activities - Portable Plants W-1 and W-2

(f) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. (326 IAC 6-1)

(g) Any of the following structural steel and bridge fabrication activities: using 80 tons or less of welding consumables. (326 IAC 6-1)

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Nonattainment Area PM Limitations [326 IAC 6-1]

Pursuant to 326 IAC 6-1-7, the brazing, cutting, soldering, welding and steel and bridge fabricating activities shall meet the allowable PM emission limitation pursuant to 326 IAC 6-1-2 (a) of 0.03 grains per standard dry cubic feet per minute. Since it may not practical to measure the grain loading from these insignificant activities, 326 IAC 6-1-2(g) requires compliance with 326 IAC 2, 326 IAC 5-1 and 326 IAC 6-4.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: Caldwell Gravel Sales, Inc. (CGS)
Source Address: 11380 North 300 East, Morristown, Indiana 46161
Mailing Address: P.O. Box 212, Morristown, Indiana 46161
Part 70 Permit No.: T 145-14524-00060, 05056 & 05202

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

9 Annual Compliance Certification Letter

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Affidavit (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
Signature:
Printed Name:
Title/Position:
Phone:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Caldwell Gravel Sales, Inc. (CGS)
Source Address: 11380 North 300 East, Morristown, Indiana 46161
Mailing Address: P.O. Box 212, Morristown, Indiana 46161
Part 70 Permit No.: T 145-14524-00060, 05056 & 05202

This form consists of 2 pages **Page 1 of 2**

9 This is an emergency as defined in 326 IAC 2-7-1(12)

- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Caldwell Gravel Sales, Inc. (CGS)
Source Address: 11380 North 300 East, Morristown, Indiana 46161
Mailing Address: P.O. Box 212, Morristown, Indiana 46161
Part 70 Permit No.: T 145-14524-00060, 05056 & 05202

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the requirements stated in this permit. This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Page 2 of 2

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.

Deviation has been reported on: ____________________

Submitted by: ____________________

Title/Position: ____________________

Signature: ____________________

Date: ____________________

Phone: ____________________

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit

Source Background and Description

Source Name:	**Caldwell Gravel Sales, Inc. (CGS)**
Source Location:	**11380 North 300 East, Morristown, Indiana 46161**
County:	**Shelby**
SIC Code:	**2951**
Operation Permit No.:	**T: 145-14524-00060, 05056 & 05202**
Permit Reviewer:	**Mark L. Kramer**

The Office of Air Quality (OAQ) has reviewed a Part 70 permit application from Caldwell Gravel Sales, Inc. (CGS) relating to the operation of one (1) stationary and two (2) portable asphalt production plants.

History

Caldwell Gravel Sales, Inc. was issued a Part 70 Operating Permit for its landfill (T145-7563-00049) on December 29, 1999. Their sand and gravel operations were issued a SSOA (S 145-12567-00051) on August 20, 2000. The stationary hot continuous mix asphalt manufacturing plant and their two (2) portable asphalt plants, W-1 and W-2, will be combined into a single source Part 70 Operating Permit as requested in correspondence received on May 18, 2001.

Correspondence received April 13, 2000 contained a request to relocate portable asphalt plant W-1 to Hancock County. A third portable warm mix asphalt plant, known as W-3, (Plt ID 145-05205), was dismantled in 1996 and used for spare parts for portable warm mix asphalt plants W-1 and W-2. On October 27, 2000, IDEM received a request to relocate portable plant W-1 from 8789 East 300 South, Carthage, Indiana in Hancock County to 11380 North 300 East, Morristown, Indiana in Shelby County. This request will be incorporated into this proposed Part 70 Operating Permit. In addition, on September 25, 2000, IDEM received a request to relocate portable plant W-2 from 11127 South 50 East, Flatwork, Indiana to 11380 North 300 East, Morristown, Indiana in Shelby County. This request will also be incorporated into the proposed Part 70 Operating Permit for portable plant W-2.

Source Definition

Caldwell Gravel Sales, Inc. consists of five (5) operations:

(a) Portable asphalt plant W-1 (Plt Id 05056) is located at 11380 North 300 East, Morristown, Indiana;

(b) Portable asphalt plant W-2 (Plt Id 05202) is located at 11380 North 300 East, Morristown, Indiana;

(c) Stationary asphalt plant S-1 is located at 11380 North 300 East, Morristown, Indiana;

(d) Stationary sand and gravel operation is located at 11380 North 300 East, Morristown,

Indiana; and

(e) Sanitary landfill is located at 11380 North 300 East, Morristown, Indiana.

The five (5) operations are located on contiguous properties, have the different SIC codes and are owned by one (1) company.

The sand and gravel operations were issued a SSOA. The sanitary landfill was considered a separate source and was issued a separate Part 70 Operating Permit. The one (1) stationary and two (2) portable asphalt plants are proposed to be issued a single Part 70 Operating Permit since they have the same SIC code.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

Portable Asphalt Plant, known as W-1

(a) One (1) portable warm mix asphalt drum mixer, known as W1, constructed in 1967, purchased in 1994, modified and began operation in 1998, capacity: increasing capacity from 132 to 200 tons of asphalt per hour.

(b) One (1) No. 2 fuel oil-fired dryer burner, rated at 62.0 million British thermal units per hour, exhausting through Stack W-1a, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(c) One (1) natural gas or No. 2 fuel oil-fired warm oil heater, known as W-1i, rated at 0.75 million British thermal units per hour, exhausting through Stack W-1i, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(d) One (1) diesel generator, known as E 34, rated at 205 kilowatts.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

Portable Asphalt Plant, known as W-2

(e) One (1) portable warm mix asphalt drum mixer, known as W2, constructed in 1967, purchased in 1994, modified and began operation in 1998, capacity: 200 tons of asphalt per hour.

(f) One (1) No. 2 fuel oil-fired dryer burner, rated at 62.0 million British thermal units per hour, exhausting through Stack W-2a, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(g) One (1) natural gas or No. 2 fuel oil-fired warm oil heater, known as W-2i, rated at 0.75 million British thermal units per hour, exhausting through Stack W-2i, constructed in 1967, purchased in 1994, modified and began operation in 1998.

(h) One (1) diesel generator, known as E 33, rated at 175 kilowatts.

Stationary Asphalt Plant, known as S-1

(i) One (1) hot continuous mixer, known as Kiln Hood Outlet, equipped with a baghouse, exhausted through Stack S-1a, constructed in 1989, reconstructed in June 1997, capacity: 132 tons of asphalt per hour.

(j) One (1) dryer burner, known as Burner, burning either natural gas or #2 distillate oil fuel, rated at 64.0 million British thermal units per hour, equipped with a baghouse, also exhausting through Stack S-1a, constructed in 1989, reconstructed in June 1997.

(k) One (1) Almix natural gas or No. 2 fuel oil-fired hot oil heater, known as S1a, rated at 0.75 million British thermal units per hour, exhausting through Stack Ss1, installed in 1996.

(l) One (1) Burner Hawk Star natural gas or No. 2 fuel oil-fired hot oil heater, known as S1b, rated at 0.75 million British thermal units per hour, exhausting through Stack Ss2, installed in 1996.

(m) One (1) No. 2 fuel oil storage tank, known as Heattech, installed in 1996, exhausting through Stack St2, capacity: 20,000 gallons of fuel oil.

(n) One (1) liquid asphalt storage tank, known as S1c , installed in 1996, exhausting through Stack St1, capacity: 9 gallons. (deemed an insignificant activity)

(o) One (1) storage bin, known as Bin #1, throughput capacity of 22.4 tons of #11 stone per hour. (deemed an insignificant activity)

(p) One (1) storage bin, known as Bin #2, throughput capacity of 52.3 tons of #11 gravel or #5 stone per hour. (deemed an insignificant activity)

(q) One (1) storage bin, known as Bin #3, throughput capacity of 82.2 tons of #9 gravel per hour. (deemed an insignificant activity)

(r) One (1) storage bin, known as Bin #4, throughput capacity of 74.8 tons of sand per hour. (deemed an insignificant activity)

(s) One (1) bucket elevator. (deemed an insignificant activity)

(t) Two (2) silos, known as Silo 1 and Silo 2. (deemed an insignificant activity)

(u) Stockpiles: #5 Stone, #12 Dolomite, #11 Stone, Sand and #11 Gravel, #9 Stone. (deemed an insignificant activity)

(v) One (1) propane-fired space heater, rated at 0.375 million British thermal units per hour. (deemed an insignificant activity)

(w) One (1) kerosene-fired space heater, rated at 0.200 million British thermal units per hour. (deemed an insignificant activity)

New Emission Units and Pollution Control Equipment Receiving Advanced Source Modification Approval

There are no new facilities proposed at this source during this review process.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) British thermal units per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight.

(b) Combustion source flame safety purging on startup.

(c) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

(d) Equipment used exclusively for the following: Packaging lubricants and greases, filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.

(e) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.

(f) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

(g) Any of the following structural steel and bridge fabrication activities: using 80 tons or less of welding consumables.

(h) Paved and unpaved roads and parking lots with public access.

(i) On-site fire and emergency response training approved by the department.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) A 145-6299-05056, issued August 21, 1996 transferring existing approvals from E & B Paving to Caldwell Gravel Sales, Inc. including:

(1) PC (27) 1745, issued April 21, 1989 (150 tons per hour drum mix asphalt plant).

(2) OP 99-04-93-0062, issued May 1, 1989 (150 tons per hour drum mix asphalt plant).

(3) Site approval, issued May 1, 1989 for 305 West, North J Street, Gas City, Indiana.

(4) Amendment issued August 12, 1991, (derated capacity from 150 to 132 tons per hour).

(b) Portable Source Relocation Letter Site Approval, R 145-6300-05056, issued August 21, 1996 from 305 West, North J Street, Gas City, Indiana to 11380 North 300 East, Morristown, Indiana 46161.

All conditions from previous approvals were incorporated into this Part 70 permit.

Enforcement Issue

(a) IDEM is aware that equipment for has been constructed and operated for Portable Plant W-2 and Stationary Plant S-1 as well as that equipment has been constructed and operated with increased capacity for Portable Plant W-1 prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Permitted Emission Units and Pollution Control Equipment.*

(b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

(c) IDEM is aware that the source was not issued a FESOP by December 14, 1996 nor did they submit a Part 70 application by that date for Portable Plants W-1 and W-2 and Stationary Plant S-1.

(d) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the operation permit rules.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 permit application for the purposes of this review was received on May 18, 2001.

For Portable Plant W-1, additional information was received on November 4, 1999, April 13, 2000, October 27, 2000, February 2, 2001 and May 18, 2001 in association with permit applications received on May 14 and 17, 1999.

For Portable Plant W-2, additional information was received on November 4, 1999, April 13, 2000, September 25, 2000 and May 18, 2001 in association with permit applications received on May 14 and 17, 1999.

For Stationary Plant S-1, additional information was received on November 4, 1999, April 13, 2000, January 4, 2000, February 2, 2001 and May 18, 2001 in association with permit application received on May 14, 1999.

There was no notice of completeness letter mailed to the source.

Stack Summary

The following are the stacks associated with stationary plant S-1:

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
S-1a	Kiln Hood Outlet	10.0	4.37	27,000	300
Ss1	Hot Oil Heater	6.0	0.83	-	300
Ss2	Hot Oil Heater	30.0	2.77	-	300

Emission Calculations

See Appendix A of this document for detailed emissions calculations, pages 1 through 40.

The applicant's stack test of the PM and PM_{10} emissions of 1.01 pounds per hour from the dismantled portable asphalt plant, W-3, were in compliance with the requirements of NSPS Subpart I as shown in the emission calculations for CP 145-4258-00055. Therefore, the potential to emit calculations for portable plants W-1 and W-2 are shown with AP-42 emission factors, but the reported potential has been calculated assuming compliance with the allowable PM emissions pursuant to 326 IAC 6-1 of 0.03 grains per dry standard cubic foot of exhaust air which also satisfies the NSPS Subpart I emission limit of 0.04 grains per dry standard cubic foot of exhaust air. Thus, the applicant has claimed that since the dismantled plant W-3 was used to construct portable plants W-1 and W-2, that compliance with the NSPS Subpart I and 326 IAC 6-1 will be achieved without control devices. A stack test will be required to verify compliance.

The increase in capacity at portable plant W-1 from 132 to 200 tons per hour results in a total increase in potential to emit PM of greater than twenty- five (25) tons per year, including fugitive emissions from increased truck traffic.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the PTE before controls for each of the three (3) plants as well as the combinations of all three (3) plants. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Portable Plant W-1

Pollutant	**Potential To Emit** (tons/year)
PM	82.4
PM_{10}	22.1
SO_2	31.9
VOC	4.71
CO	18.1
NO_X	76.9

Portable Plant W-2

Pollutant	**Potential To Emit** (tons/year)
PM	82.1
PM_{10}	21.7

Pollutant	Potential To Emit (tons/year)
SO_2	31.5
VOC	4.26
CO	16.9
NO_X	71.4

Stationary Plant S-1

Pollutant	Potential To Emit (tons/year)
PM	11,041
PM_{10}	2,562
SO_2	32.2
VOC	2.79
CO	24.8
NO_X	44.6

Combination of Portable Plants W-1 and W-2 plus Stationary Plant S-1

Pollutant	Potential To Emit (tons/year)
PM	11,206
PM_{10}	2,606
SO_2	95.5
VOC	11.8
CO	59.8
NO_X	193

Note: For the purpose of determining Title V applicability for particulates, PM_{10}, not PM, is the regulated pollutant in consideration.

HAPs	Potential To Emit (tons/year)
Portable Plant W-1	5.58
Portable Plant W-2	5.58
Stationary Plant S-1	3.85
TOTAL	15.0

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM_{10} and NO_X are equal to or greater than one hundred (100) tons per year in Shelby County. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) Fugitive Emissions

Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

No previous emission data has been received from the source.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls for each of the three (3) plants and then the combination of all three (3) plants. The control equipment is considered federally enforceable only after issuance of this Part 70 Operating Permit.

Portable Plant W-1

	Limited Potential to Emit (tons/year)						
Process/facility	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**	**HAPs**
Dryer Burner	2.51	2.51	27.7	0.664	9.77	39.1	5.08
Warm Oil Heater	0.047	0.078	1.68	0.018	0.276	0.473	0.01
Conveying	2.43	0.243	0.00	0.00	0.00	0.000	0.00
Fugitive - Storage and Roads	36.9	7.81	0.00	0.00	0.00	0.00	0.00
Diesel Generator	2.65	2.65	2.47	3.03	8.04	37.3	negligible
Insignificant Activities	1.0	1.0	0.00	1.0	0.00	0.00	0.5
Total Emissions	45.5	14.3	31.9	4.71	18.1	76.9	Single <10 Total <25

Portable Plant W-2

	Limited Potential to Emit (tons/year)						
Process/facility	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**	**HAPs**
Dryer Burner	2.51	2.51	27.7	0.664	9.77	39.1	5.08
Warm Oil Heater	0.047	0.078	1.68	0.018	0.276	0.473	0.01

	Limited Potential to Emit (tons/year)						
Process/facility	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**	**HAPs**
Conveying	2.43	0.243	0.00	0.00	0.00	0.000	0.00
Fugitive - Storage and Roads	36.9	7.81	0.00	0.00	0.00	0.00	0.00
Diesel Generator	2.26	2.26	2.11	2.58	6.87	31.90	Negligible
Insignificant Activities	1.0	1.0	0.00	1.0	0.00	0.00	0.50
Total Emissions	45.1	13.9	31.5	4.26	16.9	71.4	Single <10 Total <25

Stationary Plant S-1

	Limited Potential to Emit (tons/year)						
Process/facility	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**	**HAPs**
Dryer Burner	4.39	1.02	28.6	1.54	23.5	40.3	3.35
Oil Heater	0.095	0.156	3.36	0.036	0.552	0.945	negligible
Conveying	1.53	0.153	0.00	0.00	0.00	0.00	0.00
Fugitive - Storage and Roads	24.3	5.15	0.00	0.00	0.00	0.00	0.00
Propane & Kerosene Heaters	0.228	0.219	0.195	0.213	0.719	3.38	negligible
Insignificant Activities	1.0	1.0	0.00	1.0	0.0	0.0	0.5
Total Emissions	31.5	7.70	32.2	2.79	24.8	44.6	Single <10 Total <25

Combination of Portable Plants W-1 and W-2 plus Stationary Plant S-1

	Limited Potential to Emit (tons/year)						
Process/facility	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**	**HAPs**
Portable W-1	45.5	14.3	31.9	4.71	18.1	76.9	Single <10 Total <25
Portable W-2	45.1	13.9	31.5	4.26	16.9	71.4	Single <10 Total <25

	Limited Potential to Emit (tons/year)						
Process/facility	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**	**HAPs**
Stationary S-1	31.5	7.70	32.2	2.79	24.8	44.6	Single <10 Total <25
Total Emissions	122	35.9	95.6	11.8	59.8	193	Single <10 Total <25

County Attainment Status

The source is located in Shelby County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_X) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Shelby County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_X emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Shelby County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Portable Plants

(a) Initial Location

Plants W-1 and W-2 are portable plants and their initial location is 11380 North 300 East, Morristown, Indiana 46161

(b) PSD and Emission Offset Requirements

The emissions from this portable source were reviewed under the requirements of the Prevention of Significant Deterioration (PSD), 326 IAC 2-2, 40 CFR 52.21, and Emission Offset, 326 IAC 2-3.

(c) Fugitive Emissions

Although this type of operation is not one of the twenty-eight (28) listed sources under 326 IAC 2-2, there was an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore the fugitive emissions are counted toward determination of PSD and Emission Offset applicability.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Federal Rule Applicability

(a) This source does not involve a pollutant-specific emissions unit with the potential to emit after control in an amount equal to or greater than one hundred (100) tons per year. Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable.

(b) The portable warm mix drum asphalt manufacturing plants, W-1 and W-2 as well as the stationary continuous mix asphalt manufacturing plant, S-1, are subject to the New Source Performance Standard, 326 IAC 12, 40 CFR Part 60.90, Subpart I since portable plants W-1 and W-2 were modified and/or increased capacity in 1998 and stationary plant S-1 was reconstructed 1997. The dates of these modifications and increased capacity are after the June 11, 1973 applicability date of NSPS Subpart I. Attached is a copy of the federal rule. Pursuant to this NSPS, the following apply to the dryer burner:

(1) performance tests required as specified in this Subpart and as outlined in Part 60.8 (copy enclosed).

(2) on or after the date on which the performance tests are completed, no owner or operator subject to the provisions of Subpart I shall discharge into the atmosphere from any affected facility any gases which:

(A) contain particulate matter in excess of 0.04 grains per dry standard cubic foot:

(i) equivalent to 0.765 pounds of PM per hour at a flow rate of 2,714 actual cubic feet per minute for each portable plant W-1 and W-2.

(ii) equivalent to 6.11 pounds of PM per hour at a flow rate of 27,000 actual cubic feet per minute for stationary plant S-1.

(B) exhibit 20 percent opacity, or greater.

(c) The two (2) asphalt storage tanks at stationary plant S-1 with capacities of 35,000 gallons

each are subject to NSPS, 326 IAC 12, (40 CFR Part 60.110b, Subpart Kb) since the tanks will be constructed after July 23, 1984. Since the materials stored in these tanks have a vapor pressures less than 15.0 kiloPascals, these tanks are subject to only 40 CFR Part 60.116b, paragraphs (a) and (b) which requires record keeping. The 10,000 gallon fuel oil storage tank is exempt from the requirements of NSPS Subpart Kb since its capacity is less than 40 cubic meters.

(d) The nine (9) gallon liquid asphalt storage tank, known as S1c, installed in 1996 at stationary plant S-1 is not subject to the requirements of NSPS, 326 IAC 12, (40 CFR Part 60.110b, Subpart Kb) since its capacity is less than 40 cubic meters.

(e) The 20,000 gallons No. 2 fuel oil storage tank, known as Heattech, installed in 1996 at stationary plant S-1 is subject to NSPS, 326 IAC 12, (40 CFR Part 60.110b, Subpart Kb) since the tank was constructed after July 23, 1984. Since the material stored in this tank has a vapor pressure less than 15.0 kiloPascals, this tank is subject to only 40 CFR Part 60.116b, paragraphs (a) and (b) which requires record keeping.

(f) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

The source consisting of the two (2) portable asphalt plants, W-1 and W-2, as well as the one (1) stationary asphalt plant, S-1, is a minor PSD source since all potential emissions are limited to, or are less than, the PSD threshold levels of 250 tons per year and the asphalt plants are not one of the 28 listed source categories.

326 IAC 2-3 (Emission Offset)

The portable asphalt plants are a minor Emission Offset source if relocated together or separately since the PM and PM_{10} emissions, including fugitives, are less than one hundred (100) tons per year. The NO_X emissions for each portable plant are less than one hundred (100) tons per year, however the total for the two (2) portable plants exceeds one hundred (100) tons per year and therefore, these two (2) portable plants can not be co-located at a site in an area designated as nonattainment for ozone without prior approval from IDEM, OAQ. Limits can not be specified for another site in a nonattainment area without knowing the source status NO_X emissions of that site.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of NO_X. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

326 IAC 2-6 (Emission Reporting)

The portable asphalt plants W-1 and W-2, initially located in Shelby County, are subject to the requirements of326 IAC 2-6, Emission Reporting. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be

received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

326 IAC 5-1 (Opacity Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4 for stationary plant S-1.

(b) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4 for portable plants W-1 and W-2.

(c) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR Part 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

This rule requires that the source not generate fugitive dust to the extent that some portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

326 IAC 6-5 (Fugitive Particulate Emissions Limitations)

This rule requires a fugitive dust plan to be submitted. The plan was submitted on May 14, 1999 reviewed, and approved and consists of applying water on unpaved and paved roads as well as storage piles on an as-needed basis and restricting the speed of trucks to fifteen (15) miles per hour for portable plants, W-1 and W-2.

State Rule Applicability - Individual Facilities

326 IAC 6-1-2 (Nonattainment area particulate limitations specified)

This rule requires that particulate matter emissions from portable asphalt concrete plants constructed on or prior to June 11, 1973 shall not exceed 0.10 grains per dry standard cubic foot. Since the portable asphalt plants, W-1 and W-2, were modified after June 11, 1973, pursuant to 326 IAC 6-1-2(a) the portable asphalt plants shall not discharge into the atmosphere particulate matter in excess of 0.03 grains per dry standard cubic foot of exhaust air, equivalent to 0.574 pounds per hour at a flow rate of 2,714 actual cubic feet per minute for each portable plant. Compliance with 326 IAC 6-1-2 also satisfies NSPS Subpart I.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the hot continuous mixer exhausted through Stack S-1a shall not exceed 54.1 pounds per hour when operating at a process weight rate of 132 tons per hour for stationary Plant S-1.

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand

(60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

The baghouse shall be in operation at all times the asphalt manufacturing process is in operation, in order to comply with this limit. The PM emissions from the mixer after controls are 1.00 pound per hour which is less than the allowable PM emission rate of 54.1 pounds per hour. Therefore, hot continuous mixer is in compliance with this rule.

326 IAC 7-1.1-2 (Sulfur dioxide emission limitations)

(a) The warm oil heaters at portable plants W-1 and W-2 are not subject to the requirements of this rule since the potential sulfur dioxide emissions are less than ten (10) pounds per hour and twenty-five (25) tons per year each.

(b) The hot oil heaters, S1a and S1b, at stationary plant S-1 are not subject to the requirements of this rule since the potential sulfur dioxide emissions are less than ten (10) pounds per hour and twenty-five (25) tons per year.

(c) Sulfur dioxide (SO_2) emissions from the 62.0 million British thermal units per hour dryer/ burners at portable plants W-1 and W-2 shall be limited to 0.5 pounds per million British thermal units heat input for No. 2 fuel oil consumption each.

Sulfur dioxide emissions from Appendix A are 6.33 pounds per hour for dryer/mixer on No. 2 fuel oil. These dryer burners use, and shall be limited to, a sulfur content of 0.1% of the fuel oil burned. This sulfur content limit eliminates the necessity of a fuel use limit to comply with 326 IAC 2-3 since if the allowable 0.5 pounds per million British thermal units heat input were permitted for portable plants W-1 and W-2, the Emission Offset thresholds would be exceeded for SO_2. Therefore 6.33 pounds of SO_2 per hour divided by 62.0 million British thermal units per hour equals 0.1 pounds of SO_2 per million British thermal units. Therefore, the dryer/burner on No.2 fuel oil for each portable plant complies with this rule.

(d) Sulfur dioxide (SO_2) emissions from the 64.0 million British thermal units per hour dryer/ burner at stationary plant S-1 shall be limited to 0.5 pounds per million British thermal units heat input for No. 2 fuel oil consumption.

Sulfur dioxide emissions from Appendix A are 6.54 pounds per hour for dryer/mixer on No. 2 fuel oil. The stationary plant S-1 uses a sulfur content of 0.1% for the fuel oil burned. This sulfur content limit combined with that for the two (2) portable asphalt plants eliminates the necessity of a fuel use limit to comply with 326 IAC 2-2. Therefore 6.54 pounds of SO_2 per hour divided by 64.0 million British thermal units per hour equals 0.1 pounds of SO_2 per million British thermal units. Therefore, the dryer/burner on No.2 fuel oil complies.

The use of the allowable sulfur dioxide emission limit of 0.5 pounds per million British thermal units heat input for stationary plant S-1 would not result in potential SO_2 emissions from the entire source that exceed two hundred and fifty (250) tons per year. Thus, the requirements of 326 IAC 2-2 would not be applicable for the entire source, even if the stationary plant S-1 used the allowable SO_2 emission rate.

326 IAC 8-1-6 (Best Available Control Technology)

Since there are no 326 IAC 8 rules that apply to this source 326 IAC 8-1-6, which requires Best

Available Control Technology (BACT), could apply. This rule is not applicable since the potential VOC emissions from each portable plant as well as the stationary plant are each less than twenty-five (25) tons per year.

326 IAC 8-5-2 (Miscellaneous Operations: asphalt paving)

No person shall cause or allow the use of asphalt emulsion containing more than seven percent oil distillate by volume of emulsion for any paving application except the following purposes:

(a) penetrating prime coating,

(b) stockpile storage, and

(c) application during the months of November, December, January, February and March.

Testing Requirements

(a) Portable Plants, W-1 and W-2

In order to show compliance with NSPS Subpart I and 326 IAC 6-1 for portable plants W-1 and W-2, PM testing will be required for the drum mixer and dryer burner exhausting through Stack W-1a and W-2a since the PM emissions from AP-42 factors (shown on the spreadsheets) were not used to determine the potential emission, but the allowable grain loading was used.

(b) Stationary Plant, S-1

In order to show compliance with NSPS Subpart I and 326 IAC 6-3-2 for stationary plant S-1, PM testing will be required for the hot continuous mixer and dryer burner exhausting through Stack S-1a.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

Portable Plants W-1 and W-2

The dryer burners have applicable compliance monitoring conditions as specified below:

(a) Visible emissions notations of the dryer burner stack exhausts W-1a and W-2a shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

(b) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

These monitoring conditions are necessary because the dryer burners must operate properly to ensure compliance with NSPS Subpart I, 326 IAC 5-1, 326 IAC 6-1 and 326 IAC 2-7.

Stationary Plant S-1

The compliance monitoring requirements applicable to this stationary plant are as follows:

(a) The hot continuous mixer has applicable compliance monitoring conditions as specified below:

(1) Visible emissions notations of the baghouse stack exhaust S-1a shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

(2) The Permittee shall record the total static pressure drop across the baghouse controlling the hot continuous mixer, at once per shift when the mixer is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 3.0 to 7.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

(3) An inspection shall be performed each calender quarter of all bags controlling the asphalt manufacturing operations at this source when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

(4) In the event that bag failure has been observed:

(A) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion.

(B) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

These monitoring conditions are necessary because the baghouse for the hot continuous mixing process must operate properly to ensure compliance with326 IAC 12, NSPS Subpart I, 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

Insignificant Activities

326 IAC 6-1 (Nonattainment Area Limitations)

In order to be able to relocate the insignificant activities associated with these portable plants to any nonattainment county designated by 326 IAC 6-1-7, the brazing, cutting, soldering, welding and steel and bridge fabricating activities shall meet the allowable PM emission limitation pursuant to 326 IAC 6-1-2 (a) of 0.03 grains per standard dry cubic feet per minute. However, pursuant to 326 IAC 6-1-2(g), all operations subject to 326 IAC 6-1-2 where the process is totally enclosed and thus it is practical to measure there from shall comply with the PM emission limit. Since it may not practical to measure the grain loading from these insignificant activities, 326 IAC 6-1-2(g) requires compliance with 326 IAC 2, 326 IAC 5-1 and 326 IAC 6-4.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3, the particulate matter (PM) from the four (4) storage bins, one (1) bucket elevator and two (2) silos at stationary plant S-1 shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

Relocation of Portable Plant

(a) The proposed permit for the portable plants is approved for operation in all areas of Indiana except in severe nonattainment areas for ozone (at the time of this permit's issuance these areas were Lake and Porter Counties). This determination is based on the requirements Prevention of Significant Deterioration in 326 IAC 2-2 and 40 CFR 52.21, and Emission Offset requirements in 326 IAC 2-3. A thirty (30) day advance notice of relocation must be given to IDEM, OAQ and a "Relocation Site Approval" letter must be obtained before relocating. The notification by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall also notify the applicable local air pollution control agency when relocating to or from one of the following:

(1) Madison County - (Anderson Office of Air Management)

(2) City of Evansville plus four (4) miles beyond the corporate limits but not outside Vanderburgh County - (Evansville EPA)

(3) City of Gary - (Gary Division of Air Pollution)

(4) City of Hammond - (Hammond Department of Environmental Management)

(5) Marion County - (Indianapolis Air Pollution Control Agency)

(6) St. Joseph County - (St. Joseph County Health Department)

(7) Vigo County - (Vigo County Air Pollution Department)

(c) A valid operation permit consists of this document and any subsequent "Relocation Site Approval" letter specifying the current location of the portable plant.

Conclusion

The operation of one (1) stationary and two (2) portable asphalt production plants shall be subject to the conditions of the attached proposed **Part 70 Permit No. T 145-14524-00060, 05056 & 05202.**

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document for a Part 70 Operating Permit

Source Name: **Caldwell Gravel Sales, Inc. (CGS)**
Source Location: **11380 North 300 East, Morristown, Indiana 46161**
County: **Shelby**
SIC Code: **2951**
Operation Permit No.: **T 145-14524-00060, 05056 & 05202**
Permit Reviewer: **Mark L. Kramer**

On August 10, 2001, the Office of Air Quality (OAQ) had a notice published in the Shelbyville News, Shelbyville, Indiana, stating that Caldwell Gravel Sales, Inc. (CGS) had applied for a Part 70 Operating Permit to operate the one (1) stationary and two (2) portable asphalt plants with control. The notice also stated that OAQ proposed to issue a Part 70 Operating Permit for this operation and provided information on how the public could review the proposed Part 70 Operating Permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Part 70 Operating Permit should be issued as proposed.

Upon further review, the OAQ has decided to make the following changes to the Part 70 Operating Permit: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded)**:

Change 1

Condition A.3(a) and Section D.1(a) have been changed to only indicate the present capacity as follows:

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source with portable plants consists of the following emission units and pollution control devices:

Portable Asphalt Plant, known as W-1

(a) One (1) portable warm mix asphalt drum mixer, known as W1, constructed in 1967, purchased in 1994, modified and began operation in 1998, capacity: ~~increasing capacity from 132 to~~ 200 tons of asphalt per hour.

Changes 2, 3 and 4

In order to incorporate the twenty (20%) opacity limitation required by NSPS Subpart I and cited in the Technical Support Document on Page 11, Conditions D.1.2, D.2.2 and D.3.2 have been added as follows:

D.1.2 Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]

(a) Pursuant to NSPS Subpart I, the PM emission rate from the portable warm mix drum mixer and dryer burner exhausting through Stack W-1a shall not exceed 0.04 grains per dry standard cubic foot equivalent to 0.765 pounds per hour at a flow rate of 2,714 actual cubic

feet per minute. The 2,232 dry standard cubic feet per minute flow rate is equivalent to 2,714 actual cubic feet per minute at a temperature of 150 degrees Fahrenheit and a moisture content of 5.0 percent.

(b) Pursuant to NSPS Subpart I, portable warm mix drum mixer and dryer burner exhausting through Stack W-1a shall not exhibit twenty (20%) percent opacity, or greater.

D.2.2 Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]

(a) Pursuant to NSPS Subpart I, the PM emission rate from the portable warm mix drum mixer and dryer burner exhausting through Stack W-2a shall not exceed 0.04 grains per dry standard cubic foot equivalent to 0.765 pounds per hour at a flow rate of 2,714 actual cubic feet per minute. The 2,232 dry standard cubic feet per minute flow rate is equivalent to 2,714 actual cubic feet per minute at a temperature of 150 degrees Fahrenheit and a moisture content of 5.0 percent.

(b) Pursuant to NSPS Subpart I, portable warm mix drum mixer and dryer burner exhausting through Stack W-2a shall not exhibit twenty (20%) percent opacity, or greater.

D.3.2 Particulate Matter [326 IAC 12-1] [40 CFR Part 60.90, Subpart I]

(a) Pursuant to NSPS Subpart I, the PM emission rate from the hot continuous mixer exhausting through Stack S-1a shall not exceed 0.04 grains per dry standard cubic foot equivalent to 6.11 pounds per hour at a flow rate of 27,000 actual cubic feet per minute. The 17,820 dry standard cubic feet per minute flow rate is equivalent to 27,000 actual cubic feet per minute at a temperature of 300 degrees Fahrenheit and a moisture content of 5.0 percent.

(b) Pursuant to NSPS Subpart I, hot continuous mixer exhausting through Stack S-1a shall not exhibit twenty (20%) percent opacity, or greater.

Appendix A: Emission Calculations

Company Name: Caldwell Gravel Sales, Inc. (CGS)
Plant Location: 11380 North 300 East, Morristown, Indiana 46161
County: Shelby
Part 70: T 145-14524
Plt. ID: 145-00060, 05056 & 05202
Date: May 18, 2001
Permit Reviewer: Mark L. Kramer

Plant S-1
Continuous Hot Mix Asphalt Plant

I. Potential Emissions — S1a and S1b @ 0.75 mmBtu/hr each Hot Oil Heaters

A. Source emissions before controls — Hot Oil Heater on Oil (oil/<100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by #2 & #1 distillate fuel oil @ **0.5** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **1.500** MMBtu/hr * 8760 hrs/yr / **139000.0** Btu/gal * 2000 lbs/ton * Ef (lbs/1000 gal) = (tons/yr)

P M:	2.0 lbs/1000 gal =	**0.095**	tons/yr
PM-10	3.3 lbs/1000 gal =	**0.156**	tons/yr
S O x:	71.0 lbs/1000 gal =	**3.356**	tons/yr
N O x:	20.0 lbs/1000 gal =	**0.945**	tons/yr
V O C:	0.34 lbs/1000 gal =	**0.016**	tons/yr
C O:	5.0 lbs/1000 gal =	**0.236**	tons/yr

Hot Oil Heater on Gas (gas/<100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3

Pollutant: **1.500** MMBtu/hr * 8760 hrs/yr / 1000 Btu/cf * 2000 lbs/ton * Ef (lbs/MMcf) = (tons/yr)

P M:	1.9 lbs/MMcf =	**0.012**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.050**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.004**	tons/yr
N O x:	100.0 lbs/MMcf =	**0.657**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.036**	tons/yr
C O:	84.0 lbs/MMcf =	**0.552**	tons/yr

Dryer Burner (gas/<100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3

Pollutant: **64.000** MMBtu/hr * 8760 hrs/yr / 1000 Btu/cf * 2000 lbs/ton * Ef (lbs/MMcf) = (tons/yr)

P M:	1.9 lbs/MMcf =	**0.5326**	tons/yr
P M-10:	7.6 lbs/MMcf =	**2.130**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.168**	tons/yr
N O x:	100.0 lbs/MMcf =	**28.0320**	tons/yr
V O C:	5.5 lbs/MMcf =	**1.542**	tons/yr
C O:	84.0 lbs/MMcf =	**23.547**	tons/yr

Dryer Burner (gas/>100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/MMcf) (tons/yr)
1000 Btu/cf * 2000 lbs/ton

P M:	1.9 lbs/MMcf =	**0.000**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.000**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.000**	tons/yr
N O x:	280.0 lbs/MMcf =	**0.00**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.000**	tons/yr
C O:	84.0 lbs/MMcf =	**0.000**	tons/yr

Dryer Burner (gas/>100MMBTU/low nox)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3 (low NOx burner = 140, flue gas recirculation = 100)

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/MMcf) (tons/yr)
1000 Btu/cf * 2000 lbs/ton

P M:	1.9 lbs/MMcf =	**0.000**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.000**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.000**	tons/yr
N O x:	140.0 lbs/MMcf =	**0.000**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.000**	tons/yr
C O:	84.0 lb/MMcf =	**0.000**	tons/yr

(#2 & #1 oil) Dryer Burner <100

The following calculations determine the amount of emissions created by #2 & #1 distillate fuel oil @ **0.1** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **64.0** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
139000.0 Btu/gal * 2000 lbs/ton

P M:	2.0 lbs/1000 gal =	**4.033**	tons/yr
PM-10:	3.3 lbs/1000 gal =	**6.655**	tons/yr
S O x:	14.2 lbs/1000 gal =	**28.637**	tons/yr
N O x:	20.0 lbs/1000 gal =	**40.334**	tons/yr
V O C:	0.34 lbs/1000 gal =	**0.686**	tons/yr
C O:	5.0 lbs/1000 gal =	**10.083**	tons/yr

If Rating >100 mmBt	
N O x:	**24.0**
V O C:	**0.20**

(#4 oil/ <100MMBTU) Dryer Burner

The following calculations determine the amount of emissions created by #4 distillate fuel oil @ **0.5** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
138000.0 Btu/gal * 2000 lbs/ton

P M:	2.0 lbs/1000 gal =	**0.000**	tons/yr
PM-10:	3.3 lbs/1000 gal =	**0.000**	tons/yr
S O x:	71.0 lbs/1000 gal =	**0.000**	tons/yr
N O x:	20.0 lbs/1000 gal =	**0.000**	tons/yr
V O C:	0.34 lbs/1000 gal =	**0.000**	tons/yr
C O:	5.0 lbs/1000 gal =	**0.000**	tons/yr

(#4 oil/ >100MMBTU) Dryer Burner

The following calculations determine the amount of emissions created by #4 distillate
fuel oil @ **0.000** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **0.0** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
0.0 Btu/gal * 2000 lbs/ton

P M:	2.0 lbs/1000 gal =	**0.000**	tons/yr
PM-10:	3.3 lbs/1000 gal =	**0.000**	tons/yr
S O x:	0.0 lbs/1000 gal =	**0.000**	tons/yr
N O x:	24.0 lbs/1000 gal =	**0.000**	tons/yr
V O C:	0.20 lbs/1000 gal =	**0.000**	tons/yr
C O:	5.0 lbs/1000 gal =	**0.000**	tons/yr

(waste oil/ vaporizing burner)

The following calculations determine the amount of emissions created by waste 0.000 **% Ash**
fuel oil @ **0.500** % sulfur, based on 8760 hours of use and AP-42, Chapter 1.11 0.000 **% Lead**

Pollutant: **0.0** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
0.0 Btu/gal * 2000 lbs/ton

P M:	0.0 lbs/1000 gal =	**0.000**	tons/yr
P M-10:	0.0 lbs/1000 gal =	**0.000**	tons/yr
S O x:	50.0 lbs/1000 gal =	**0.000**	tons/yr
N O x:	11.0 lbs/1000 gal =	**0.000**	tons/yr
VOC	1.0 lbs/1000 gal =	**0.000**	tons/yr
C O:	1.7 lbs/1000 gal =	**0.000**	tons/yr
Pb:	0.0 lbs/1000 gal =	**0.000**	tons/yr

(waste oil/atomizing burner)

The following calculations determine the amount of emissions created by waste 0.000 **% Ash**
fuel oil @ **0.000** % sulfur, based on 8760 hours of use andAP-42 Chapter 1.11 0.000 **% Lead**

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
0.000 Btu/gal * 2000 lbs/ton

P M:	0.0 lbs/1000 gal =	**0.000**	tons/yr
P M-10:	0.0 lbs/1000 gal =	**0.000**	tons/yr
S O x:	0.0 lbs/1000 gal =	**0.000**	tons/yr
N O x:	16.0 lbs/1000 gal =	**0.000**	tons/yr
VOC	1.0 lbs/1000 gal =	**0.000**	tons/yr
C O:	2.10 lbs/1000 gal =	**0.000**	tons/yr
Pb:	0.00 lbs/1000 gal =	**0.000**	tons/yr

* * aggregate drying: drum-mix plant * *

The following calculations determine the amount of emissions created by aggregate drying, based on 8760 hours of use and EPA SCC #3-05-002-05:

P M:	19	lbs/ton x	**132.0**	tons/hr x	8760	hrs/yr =	**10985.040**	tons/yr
			2000	lbs/ton				
P M-10:	4.4	lbs/ton x	132	tons/hr x	8760	hrs/yr =	**2543.904**	tons/yr
			2000	lbs/ton				
Lead:	3.30000000E-06	lbs/ton x	132	tons/hr x	8760	hrs/yr =	**0.002**	tons/yr
			2000	lbs/ton				
HAPs:	0.0058	lbs/ton x	132	tons/hr x	8760	hrs/yr =	**3.353**	tons/yr
			2000	lbs/ton				

HAPs include benzene, ethylbenzene, formaldehyde, methyl chloroform, naphthalene, toluene, xylene; arsenic, cadmium, chromium, manganese, mercury, and nickel compounds.

* * aggregate drying: batch-mix plant * *

The following calculations determine the amount of emissions created by aggregate drying, based on 8760 hours of use and EPA SCC #3-05-002-05:

P M:	32	lbs/ton x	**0.0**	tons/hr x	8760	hrs/yr =	**0.0**	tons/yr
			2000	lbs/ton				
P M-10:	4.5	lbs/ton x	0	tons/hr x	8760	hrs/yr =	**0.0**	tons/yr
			2000	lbs/ton				
Lead:	3.30000000E-06	lbs/ton x	0	tons/hr x	8760	hrs/yr =	**0.000**	tons/yr
			2000	lbs/ton				
HAPs:	0.0058	lbs/ton x	0	tons/hr x	8760	hrs/yr =	**0.000**	tons/yr
			2000	lbs/ton				

HAPs include benzene, ethylbenzene, formaldehyde, methyl chloroform, naphthalene, toluene, xylene; arsenic, cadmium, chromium, manganese, mercury, and nickel compounds.

* * conveying / handling * *

The following calculations determine the amount of emissions created by material handling of aggregate, based on 8760 hours of use and AP-42, Ch 11.19.2

Ef = .0032*	(U/5)^1.3 * k = (M/2)^1.4	**0.003**	lbs/ton
where k=	1 (particle size multiplier)		
U =	12 mph mean wind speed (worst case)		
M =	**5.0** % moisture		

P M :	**0.003**	lbs/ton x	**126**	tons/hr x	8760	hrs/yr =	**1.528**	tons/yr
			2000	lbs/ton				
	P M-10:	10%	of PM =				**0.153**	tons/yr

Screening	PM:	**0**	tons/hr x	0.0315	lbs/ton	/ 2000 lbs/ton x	8760	hrs/yr =	**0.000** tons/yr	AP-42 Ch.11.19.2
	P M-10:	10%	of PM =				**0.000**	tons/yr		

* * unpaved roads * *

The following calculations determine the amount of emissions created by vehicle traffic on unpaved roads, based on 8760 hours of use and AP-42, Ch 11.2.1.

A. Double-axle Truck

6.3 trips/hr x
0.20 miles/roundtrip x
8760 hrs/yr = **11012.6** miles per year

For PM		For PM-10	
	Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
8.84	=	1.87	lb/mile
10	where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
4.8	s =	4.8	mean % silt content of unpaved roads
0.5	b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
0.4	c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
24	W =	24	tons average vehicle weight
0.2	Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
125	p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

8.84 lb/mi x 11012.5714286 mi/yr = PM **48.69** tons/yr
2000 lb/ton

1.87 lb/mi x 11012.5714286 mi/yr = PM-10 **10.30** tons/yr
2000 lb/ton

B. Front End Loader

0.0 trips/hr x
0.000 miles/roundtrip x
8760 hrs/yr = **0.0** miles per year

For PM		For PM-10	
	Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
11.24	=	2.27	lb/mile
10	where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
4.8	s =	4.8	mean % silt content of unpaved roads
0.5	b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
0.4	c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
38	W =	38	tons average vehicle weight
0.2	Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
125	p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

11.24 lb/mi x 0 mi/yr = PM **0.00** tons/yr
2000 lb/ton

2.27 lb/mi x 0 mi/yr = PM-10 **0.00** tons/yr
2000 lb/ton

C. Semi Truck

0.0	trips/hr x					
0.0	miles/roundtrip x					
8760	hrs/yr =			**0.0** miles per year		

For PM		**For PM-10**	
	Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
11.24	=	2.27	lb/mile
10	where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
4.8	s =	4.8	mean % silt content of unpaved roads
0.5	b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
0.4	c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
38	W =	38	tons average vehicle weight
0.2	Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
125	p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

	11.24	lb/mi x	0	mi/yr =	PM	**0.00** tons/yr
		2000	lb/ton			
	2.27	lb/mi x	0	mi/yr =	PM-10	**0.00** tons/yr
		2000	lb/ton			
All Trucking	Total PM:	**48.69**	tons/yr			
	Total PM-10:	**10.30**	tons/yr			

* * storage * *

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8760 hours of use and AP-42, Ch 11.2.3.

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.74	lbs/acre/day for sand
=	1.16	lbs/acre/day for stone
=	1.16	lbs/acre/day for slag
=	1.16	lbs/acre/day for gravel
=	1.16	lbs/acre/day for RAP
where s =	1.5	% silt for sand
s =	1.0	% silt of stone
s =	1.0	% silt of slag
s =	1.0	% silt of gravel
s =	1.0	% silt for RAP
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) = Ef * sc * (20 cuft/ton) * (365 days/yr) / (2000 lbs/ton)*(43560 sqft/acre)*(25 ft)

=	0.002	tons/yr for sand
=	0.006	tons/yr for stone
=	0.000	tons/yr for slag
=	0.000	tons/yr for gravel
=	0.000	tons/yr for RAP
Total PM:	**0.008**	tons/yr

where sc =	**0.350**	,000 tons storage capacity for sand
sc =	**1.650**	,000 tons storage capacity for stone
sc =	**0**	,000 tons storage capacity for slag
sc =	**0**	,000 tons storage capacity for gravel
sc =	**0**	,000 tons storage capacity for RAP

P M-10:	35%	of PM =	0.001 tons/yr for sand
	35%	of PM =	0.002 tons/yr for stone
	35%	of PM =	0.000 tons/yr for slag
	35%	of PM =	0.000 tons/yr for gravel
	35%	of PM =	0.000 tons/yr for RAP
Total PM-10:			**0.003** tons/yr

Emissions before controls (combustion plus production) are as follows:

natural gas		#2 oil		#4 oil	Plus Hot Oil Heater on #2	waste oil	
P M:	**11036** tons/yr	P M:	**11039.4** tons/yr	P M:	**0.000** tons/yr	P M:	**0.000** tons/yr
P M-10:	**2557** tons/yr	P M-10:	**2561.2** tons/yr	P M-10:	**0.000** tons/yr	P M-10:	**0.000** tons/yr
S O x:	**0.172** tons/yr	S O x:	**32.0** tons/yr	S O x:	**3.356** tons/yr	S O x:	**0.000** tons/yr
N O x:	**28.7** tons/yr	N O x:	**41.3** tons/yr	N O x:	**0.945** tons/yr	N O x:	**0.000** tons/yr
V O C:	**1.578** tons/yr	V O C:	**0.702** tons/yr	V O C:	**0.016** tons/yr	V O C:	**0.000** tons/yr
C O:	**24.1** tons/yr	C O:	**10.3** tons/yr	C O:	**0.236** tons/yr	C O:	**0.000** tons/yr
Lead:	**0.002** tons/yr	Lead:	**0.002** tons/yr	Lead:	**0.002** tons/yr	Lead:	**0.002** tons/yr
HAPs:	**3.35** tons/yr	HAPs:	**3.35** tons/yr	HAPs:	**3.353** tons/yr	HAPs:	**0.000** tons/yr

B. Source emissions after controls

dryer combustion: gas

P M:	0.53 tons/yr x	**0.00040**	emitted after controls =	**0.000**	tons/yr
P M-10:	2.13 tons/yr x	**0.00040**	emitted after controls =	**0.001**	tons/yr

dryer combustion: #2 oil

P M:	4.03 tons/yr x	**0.00040**	emitted after controls =	**0.002**	tons/yr
P M-10:	6.66 tons/yr x	**0.00040**	emitted after controls =	**0.003**	tons/yr

hot oil heater combustion: gas

P M:	0.012 tons/yr x	**1.00000**	emitted after controls =	**0.012**	tons/yr
P M-10:	0.050 tons/yr x	**1.00000**	emitted after controls =	**0.050**	tons/yr

hot oil heater combustion: #2 oil

P M:	0.095 tons/yr x	**1.00000**	emitted after controls =	**0.095**	tons/yr
P M-10:	0.156 tons/yr x	**1.00000**	emitted after controls =	**0.156**	tons/yr

dryer combustion: #4 oil

P M:	0.00 tons/yr x	**1.00000**	emitted after controls =	**0.000**	tons/yr
P M-10:	0.00 tons/yr x	**1.00000**	emitted after controls =	**0.000**	tons/yr

dryer combustion: waste oil

P M:	0.00 tons/yr x	**1.000**	emitted after controls =	**0.000**	tons/yr
P M-10:	0.00 tons/yr x	**1.000**	emitted after controls =	**0.000**	tons/yr

aggregate drying:

P M:	10985.04 tons/yr x	**0.00040**	emitted after controls =	**4.394**	tons/yr
P M-10:	2543.90 tons/yr x	**0.00040**	emitted after controls =	**1.018**	tons/yr

conveying/handling:

P M:	1.53 tons/yr x	**1.000**	emitted after controls =	**1.528**	tons/yr
P M-10:	0.15 tons/yr x	**1.000**	emitted after controls =	**0.153**	tons/yr

screening

P M:	0.00	tons/yr x	**1.000**	emitted after controls =	**0.000** tons/yr
P M-10:	0.00	tons/yr x	**1.000**	emitted after controls =	**0.000** tons/yr

unpaved roads:

P M:	48.69	tons/yr x	50.00%	emitted after controls =	**24.343** tons/yr
P M-10:	10.30	tons/yr x	50.00%	emitted after controls =	**5.152** tons/yr

storage:

P M:	0.008	tons/yr x	50.00%	emitted after controls =	**0.004** tons/yr
P M-10:	0.003	tons/yr x	50.00%	emitted after controls =	**0.001** tons/yr

Emissions after controls (combustion plus production) are as follows:

	Gas	#2 Oil	#4 Oil	Waste Oil	
P M:	**30.3**	**30.4**	**0.000**	**0.000**	tons/yr
P M-10:	**6.4**	**6.5**	**0.000**	**0.000**	tons/yr

II. Allowable Emissions

A. The following calculations determine compliance with NSPS Subpart I, which limits stack emissions from asphalt plants to 0.04 gr/dscf:

$$0.04 \frac{\text{grains}}{\text{dscf}} * \text{**27000.000** acfm} * \frac{528}{460 + \text{**300** Temp}} * \frac{100 - \text{5 \% moisture}}{100} * 525600 \frac{\text{minutes}}{\text{year}} * \frac{1}{7000 \text{ grains}} * \frac{1 \text{ ton}}{2000 \text{ lbs}} = \text{**26.761** tons/yr}$$

To meet NSPS Subpart I, the following value must be < amount calculated above **4.5** tons/yr

B. The following calculations determine the maximum sulfur content of distillate #2 fuel oil allowable by 326 IAC 7:

limit:	0.5	lbs/MMBtu			
	0.5	lbs/MMBtu x	**139000.0**	Btu/gal=	**69.5** lbs/1000gal
	69.5	lbs/1000gal /	**142.0**	lb/1000 gal =	**0.489**

Sulfur content must be less than or equal to **0.489** % to comply with 326 IAC 7
and to limit SO2 emissions to 99 tons per year or less.

C. The following calculations determine the maximum sulfur content of residual waste fuel oil allowable by 326-IAC 7:

limit:	1.6	lbs/MMBtu			
	1.6	lbs/MMBtu x	**0.000**	Btu/gal=	0 lbs/1000gal
	0	lbs/1000gal /	**100.0**	lbs/1000 gal = (check burner type)	**0.000**

Sulfur content must be less than or equal to **0.000** % to comply with 326 IAC 7
and to limit SO2 emissions to 99 tons per year or less.

D. The following calculations determine the maximum sulfur content of distillate #4 fuel oil allowable by 326-IAC 7:

limit:	0.5 lbs/MMBtu				
	0.5 lbs/MMBtu x	**139000.000** Btu/gal=		69.5 lbs/1000gal	
	69.5 lbs/1000gal /	**150.0** lbs/1000 gal =		**0.463**	
Sulfur content must be less than or equal to and to limit SO2 emissions to 99 tons per year or less.		**0.463** % to comply with 326 IAC 7			

III. Limited Potential Emissions

FUEL USAGE LIMITATION: BASED ON NOx

FUEL USAGE LIMITATION FOR HOT OIL HEATER ALONE (OIL)

0.945	tons NOx / year	*	2000	lbs / ton	=	1890.65	lbs NOx / year
1890.6474820144	lbs NOx / year	/	20	lbs NOx / kgal	=	94.53	kgal / year
94.53	kgal / year	*	100.00 0.94532374101	tons/year tons/year	=	**0.0**	gal fuel / year

FUEL USAGE LIMITATION FOR BURNER & HEATER (Gas)

28.689	tons NOx / year	*	2000	lbs / ton	=	57378	lbs NOx / year	
57378	lbs NOx / year	/	**100.0**	lbs NOx / MMcf	=	573.78	MMcf / year	
573.78	MMcf / year	*	**100.0** 28.69	tons/yr tons/yr	=	**2000.0**	MMcf / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER & HEATER (#2 Oil)

41.28	tons NOx / year	*	2000	lbs / ton	=	82558.27	lbs NOx / year	
82558.27	lbs NOx / year	/	20	lbs / 1000 gal	=	4127.91	kgal / year	
4127.91	kgal / year	*	**100.0** 41.28	tons/yr tons/yr	=	**0.0**	kgal / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER (#4 Oil)

0.95	tons NOx / year	*	2000	lbs / ton	=	1890.65	lbs NOx / year	
1890.65	lbs NOx / year	/	**0.0**	lbs / 1000 gal	=	0.00	kgal / year	
0.00	kgal / year	*	**100.0** / 0.95	tons/yr / tons/yr	=	**0.0**	kgal / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER (Waste Oil)

0.00	tons NOx / year	*	2000	lbs / ton	=	0.00	lbs NOx / year	
0.00	lbs NOx / year	/	**0.0**	lbs / 1000 gal	=	0.00	kgal / year	
0.00	kgal / year	*	**100.0** / 0.00	tons/yr / tons/yr	=	**0.0**	kgal / year	FESOP Limit

FUEL USAGE LIMITATION: BASED ON SO2

FUEL USAGE LIMITATION FOR HOT OIL HEATER ON OIL

3.36	tons SO2 / year	*	2000	lbs / ton	=	6711.7985612	lbs SO2 / year	
6711.7985611511	lbs SO2 / year	/	**71.0**	lbs SO2 / kgal	=	94.53	kgal / year	
94.532374100719	kgal / year	*	100.00 / 3.35589928058	tons/year / tons/year	=	**0.0**	gal fuel / year	

FUEL USAGE LIMITATION FOR BURNER AND HOT OIL HEATER (Gas)

0.172	tons SO2 / year	*	2000	lbs / ton	=	344.27	lbs SO2 / year	
344.27	lbs SO2 / year	/	**0.6**	lbs SO2 / MMcf	=	573.78	MMcf / year	
573.78	MMcf / year	*	**100.0** / 0.17	tons/yr / tons/yr	=	**0.0**	MMcf / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER & HEATER (#2 Oil)

32.0	tons SO2 / year	*	2000	lbs / ton	=	63985.81	lbs SO2 / year
63985.81	lbs SO2 / year	/	**71.0**	lbs / 1000 gal	=	901208.63309	gal / year
901208.63	gal / year	*	**96.735**	tons/yr	=	0.0	gal / year FESOP Limit
			31.99	tons/yr			

FUEL USAGE LIMITATION FOR BURNER (#4 Oil) See Below for calculation of #4 oil limit

3.4	tons SO2 / year	*	2000	lbs / ton	=	6711.7985612	lbs SO2 / year
6711.80	lbs SO2 / year	/	**0.0**	lbs / 1000 gal	=	0	gal / year
0.00	gal / year	*	**100.0**	tons/yr	=	**0.0**	gal / year FESOP Limit
			3.36	tons/yr			

FUEL USAGE LIMITATION FOR BURNER (Waste Oil)

0.0	tons SO2 / year	*	2000	lbs / ton	=	0.00	lbs SO2 / year
0.00	lbs SO2 / year	/	**0.0**	lbs / 1000 gal	=	0.00	gal / year
0.00	gal / year	*	**100.0**	tons/yr	=	**0.0**	gal / year FESOP Limit
			0.00	tons/yr			

Insignificant Heaters
Propane

Stationary Asplalt Plant S-1
Space Heater @ 0.375 mmBtu/hr

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	SO2 Emission factor = 86.5 x S S = Sulfur Content =
0.3750	35.90	0.10

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	0.6	0.6	8.6500 *(86.5S)*	19.0	0.3	3.2
Potential Emission in tons/yr	0.011	0.011	0.1553	0.341	0.0045	0.057

Emission Factors from FIRES 6.22

Methodology

1 gallon of LPG has a heating value of 94,000 Btu
1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu
Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Kerosene

Stationary Asphalt Plant S-1
Space Heater @ 0.200 mmBtu/hr

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year
0.200	12.98

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	33.5	32.0	6.2000	469.0	32.1	102.0
Potential Emission in tons/yr	0.217	0.208	0.040231	3.043	0.208	0.662

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.

Methodology

1 gallon of Kerosene has a heating value of 135,000 Btu
(Source - AP-42 (Supplement B 10/96) page 1.5-1)
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.135 MMBtu
Emission Factors are from AP42 (Supplement B 10/96), Table 1.5-1 (SCC #1-02-010-02)
Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Company Name: Caldwell Gravel Sales, Inc. (CGS) - Plant W-1
Plant Location: 11380 North 300 East, Morristown, Indiana 46161
County: Shelby
Part 70: T 145-14524
Plt. ID: 145-00060, 05056 & 05202
Date: May 18, 2001
Permit Reviewer: Mark L. Kramer

Plant W-1
Portable Warm Drum Mix Asplant

I. Potential Emissions

A. Source emissions before controls

Hot Oil Heater on Oil (oil/<100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by #2 & #1 distillate fuel oil @ **0.5** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **0.750** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
139000.0 Btu/gal * 2000 lbs/ton

P M:	2.0 lbs/1000 gal =	**0.047**	tons/yr
PM-10	3.3 lbs/1000 gal =	**0.078**	tons/yr
S O x:	71.0 lbs/1000 gal =	**1.678**	tons/yr
N O x:	20.0 lbs/1000 gal =	**0.473**	tons/yr
V O C:	0.34 lbs/1000 gal =	**0.008**	tons/yr
C O:	5.0 lbs/1000 gal =	**0.118**	tons/yr

Hot Oil Heater on Gas (gas/<100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3

Pollutant: **0.750** MMBtu/hr * 8760 hrs/yr * Ef (lbs/MMcf) = (tons/yr)
1000 Btu/cf * 2000 lbs/ton

P M:	1.9 lbs/MMcf =	**0.006**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.025**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.002**	tons/yr
N O x:	100.0 lbs/MMcf =	**0.329**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.018**	tons/yr
C O:	84.0 lbs/MMcf =	**0.276**	tons/yr

Dryer Burner (gas/<100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/MMcf) = (tons/yr)
1000 Btu/cf * 2000 lbs/ton

P M:	1.9 lbs/MMcf =	**0.0000**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.000**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.000**	tons/yr
N O x:	100.0 lbs/MMcf =	**0.0000**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.000**	tons/yr
C O:	84.0 lbs/MMcf =	**0.000**	tons/yr

Dryer Burner (gas/>100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/MMcf) (tons/yr)
1000 Btu/cf * 2000 lbs/ton

P M:	1.9 lbs/MMcf =	**0.000**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.000**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.000**	tons/yr
N O x:	280.0 lbs/MMcf =	**0.00**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.000**	tons/yr
C O:	84.0 lbs/MMcf =	**0.000**	tons/yr

Dryer Burner (gas/>100MMBTU/low nox)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3 (low NOx burner = 140, flue gas recirculation = 100)

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/MMcf) (tons/yr)
1000 Btu/cf * 2000 lbs/ton

P M:	1.9 lbs/MMcf =	**0.000**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.000**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.000**	tons/yr
N O x:	140.0 lbs/MMcf =	**0.000**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.000**	tons/yr
C O:	84.0 lb/MMcf =	**0.000**	tons/yr

(#2 & #1 oil) Dryer Burner <100

The following calculations determine the amount of emissions created by #2 & #1 distillate fuel oil @ **0.1** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **62.0** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
139000.0 Btu/gal * 2000 lbs/ton

P M:	2.0 lbs/1000 gal =	**3.907**	tons/yr
PM-10:	3.3 lbs/1000 gal =	**6.447**	tons/yr
S O x:	14.2 lbs/1000 gal =	**27.742**	tons/yr
N O x:	20.0 lbs/1000 gal =	**39.073**	tons/yr
V O C:	0.34 lbs/1000 gal =	**0.664**	tons/yr
C O:	5.0 lbs/1000 gal =	**9.768**	tons/yr

If Rating >100 mmBt	
N O x:	**24.0**
V O C:	**0.20**

(#4 oil/ <100MMBTU) Dryer Burner

The following calculations determine the amount of emissions created by #4 distillate fuel oil @ **0.5** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
138000.0 Btu/gal * 2000 lbs/ton

P M:	2.0 lbs/1000 gal =	**0.000**	tons/yr
PM-10:	3.3 lbs/1000 gal =	**0.000**	tons/yr
S O x:	71.0 lbs/1000 gal =	**0.000**	tons/yr
N O x:	20.0 lbs/1000 gal =	**0.000**	tons/yr
V O C:	0.34 lbs/1000 gal =	**0.000**	tons/yr
C O:	5.0 lbs/1000 gal =	**0.000**	tons/yr

(#4 oil/ >100MMBTU) Dryer Burner

The following calculations determine the amount of emissions created by #4 distillate fuel oil @ **0.000** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **0.0** MMBtu/hr * 8760 hrs/yr / **0.0** Btu/gal * 2000 lbs/ton * Ef (lbs/1000 gal) = (tons/yr)

P M:	2.0	lbs/1000 gal =	**0.000** tons/yr
PM-10:	3.3	lbs/1000 gal =	**0.000** tons/yr
S O x:	0.0	lbs/1000 gal =	**0.000** tons/yr
N O x:	24.0	lbs/1000 gal =	**0.000** tons/yr
V O C:	0.20	lbs/1000 gal =	**0.000** tons/yr
C O:	5.0	lbs/1000 gal =	**0.000** tons/yr

(waste oil/ vaporizing burner)

The following calculations determine the amount of emissions created by waste fuel oil @ **0.500** % sulfur, based on 8760 hours of use and AP-42, Chapter 1.11

0.000 **% Ash**
0.000 **% Lead**

Pollutant: **0.0** MMBtu/hr * 8760 hrs/yr / **0.0** Btu/gal * 2000 lbs/ton * Ef (lbs/1000 gal) = (tons/yr)

P M:	0.0	lbs/1000 gal =	**0.000** tons/yr
P M-10:	0.0	lbs/1000 gal =	**0.000** tons/yr
S O x:	50.0	lbs/1000 gal =	**0.000** tons/yr
N O x:	11.0	lbs/1000 gal =	**0.000** tons/yr
VOC	1.0	lbs/1000 gal =	**0.000** tons/yr
C O:	1.7	lbs/1000 gal =	**0.000** tons/yr
Pb:	0.0	lbs/1000 gal =	**0.000** tons/yr

(waste oil/atomizing burner)

The following calculations determine the amount of emissions created by waste fuel oil @ **0.000** % sulfur, based on 8760 hours of use andAP-42 Chapter 1.11

0.000 **% Ash**
0.000 **% Lead**

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr / **0.000** Btu/gal * 2000 lbs/ton * Ef (lbs/1000 gal) = (tons/yr)

P M:	0.0	lbs/1000 gal =	**0.000** tons/yr
P M-10:	0.0	lbs/1000 gal =	**0.000** tons/yr
S O x:	0.0	lbs/1000 gal =	**0.000** tons/yr
N O x:	16.0	lbs/1000 gal =	**0.000** tons/yr
VOC	1.0	lbs/1000 gal =	**0.000** tons/yr
C O:	2.10	lbs/1000 gal =	**0.000** tons/yr
Pb:	0.00	lbs/1000 gal =	**0.000** tons/yr

* * aggregate drying: drum-mix plant * *

The following calculations determine the amount of emissions created by aggregate drying, based on 8760 hours of use and EPA SCC #3-05-002-05:

P M:	19	lbs/ton x	**200.0**	tons/hr x	8760	hrs/yr =	**16644.000**	tons/yr
			2000	lbs/ton				
P M-10:	4.4	lbs/ton x	200	tons/hr x	8760	hrs/yr =	**3854.400**	tons/yr
			2000	lbs/ton				
Lead:	3.30000000E-06	lbs/ton x	200	tons/hr x	8760	hrs/yr =	**0.003**	tons/yr
			2000	lbs/ton				
HAPs:	0.0058	lbs/ton x	200	tons/hr x	8760	hrs/yr =	**5.081**	tons/yr
			2000	lbs/ton				

HAPs include benzene, ethylbenzene, formaldehyde, methyl chloroform, naphthalene, toluene, xylene; arsenic, cadmium, chromium, manganese, mercury, and nickel compounds.

* * aggregate drying: batch-mix plant * *

The following calculations determine the amount of emissions created by aggregate drying, based on 8760 hours of use and EPA SCC #3-05-002-05:

P M:	32	lbs/ton x	**0.0**	tons/hr x	8760	hrs/yr =	**0.0**	tons/yr
			2000	lbs/ton				
P M-10:	4.5	lbs/ton x	0	tons/hr x	8760	hrs/yr =	**0.0**	tons/yr
			2000	lbs/ton				
Lead:	3.30000000E-06	lbs/ton x	0	tons/hr x	8760	hrs/yr =	**0.000**	tons/yr
			2000	lbs/ton				
HAPs:	0.0058	lbs/ton x	0	tons/hr x	8760	hrs/yr =	**0.000**	tons/yr
			2000	lbs/ton				

HAPs include benzene, ethylbenzene, formaldehyde, methyl chloroform, naphthalene, toluene, xylene; arsenic, cadmium, chromium, manganese, mercury, and nickel compounds.

* * conveying / handling * *

The following calculations determine the amount of emissions created by material handling of aggregate, based on 8760 hours of use and AP-42, Ch 11.19.2

Ef = .0032*	(U/5)^1.3 * k = (M/2)^1.4	**0.003**	lbs/ton
where k=	1 (particle size multiplier)		
U =	12 mph mean wind speed (worst case)		
M =	**5.0** % moisture		

P M :	**0.003**	lbs/ton x	**200**	tons/hr x	8760	hrs/yr =	**2.426**	tons/yr
			2000	lbs/ton				
P M-10:	10%	of PM =					**0.243**	tons/yr

Screening	PM:	**0**	tons/hr x	0.0315	lbs/ton	/ 2000 lbs/ton x	8760	hrs/yr =	**0.000**	tons/yr	AP-42 Ch.11.19.2
	P M-10:	10%	of PM =						**0.000**	tons/yr	

* * unpaved roads * *

The following calculations determine the amount of emissions created by vehicle traffic on unpaved roads, based on 8760 hours of use and AP-42, Ch 11.2.1.

A. Double-axle Truck

9.5 trips/hr x
0.20 miles/roundtrip x
8760 hrs/yr = **16685.7** miles per year

For PM		For PM-10	
	Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
8.84	=	1.87	lb/mile
10	where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
4.8	s =	4.8	mean % silt content of unpaved roads
0.5	b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
0.4	c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
24	W =	24	tons average vehicle weight
0.2	Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
125	p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

8.84 lb/mi x 16685.7142857 mi/yr = PM **73.77** tons/yr
2000 lb/ton

1.87 lb/mi x 16685.7142857 mi/yr = PM-10 **15.61** tons/yr
2000 lb/ton

B. Front End Loader

0.0 trips/hr x
0.000 miles/roundtrip x
8760 hrs/yr = **0.0** miles per year

For PM		For PM-10	
	Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
11.24	=	2.27	lb/mile
10	where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
4.8	s =	4.8	mean % silt content of unpaved roads
0.5	b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
0.4	c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
38	W =	38	tons average vehicle weight
0.2	Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
125	p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

11.24 lb/mi x 0 mi/yr = PM **0.00** tons/yr
2000 lb/ton

2.27 lb/mi x 0 mi/yr = PM-10 **0.00** tons/yr
2000 lb/ton

C. Semi Truck

0.0	trips/hr x					
0.0	miles/roundtrip x					
8760	hrs/yr =		**0.0** miles per year			

For PM		**For PM-10**	
	Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
11.24	=	2.27	lb/mile
10	where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
4.8	s =	4.8	mean % silt content of unpaved roads
0.5	b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
0.4	c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
38	W =	38	tons average vehicle weight
0.2	Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
125	p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

	11.24	lb/mi x	0	mi/yr =	PM	**0.00** tons/yr
		2000	lb/ton			
	2.27	lb/mi x	0	mi/yr =	PM-10	**0.00** tons/yr
		2000	lb/ton			
All Trucking	Total PM:	**73.77**	tons/yr			
	Total PM-10:	**15.61**	tons/yr			

* * storage * *

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8760 hours of use and AP-42, Ch 11.2.3.

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.74	lbs/acre/day for sand
=	1.16	lbs/acre/day for stone
=	1.16	lbs/acre/day for slag
=	1.16	lbs/acre/day for gravel
=	1.16	lbs/acre/day for RAP
where s =	1.5	% silt for sand
s =	1.0	% silt of stone
s =	1.0	% silt of slag
s =	1.0	% silt of gravel
s =	1.0	% silt for RAP
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) = Ef * sc * (20 cuft/ton) * (365 days/yr) / (2000 lbs/ton)*(43560 sqft/acre)*(25 ft)

=	0.002	tons/yr for sand
=	0.006	tons/yr for stone
=	0.000	tons/yr for slag
=	0.000	tons/yr for gravel
=	0.000	tons/yr for RAP
Total PM:	**0.008**	tons/yr

where sc =	**0.350**	,000 tons storage capacity for sand
sc =	**1.650**	,000 tons storage capacity for stone
sc =	**0**	,000 tons storage capacity for slag
sc =	**0**	,000 tons storage capacity for gravel
sc =	**0**	,000 tons storage capacity for RAP

P M-10:	35%	of PM =	0.001 tons/yr for sand
	35%	of PM =	0.002 tons/yr for stone
	35%	of PM =	0.000 tons/yr for slag
	35%	of PM =	0.000 tons/yr for gravel
	35%	of PM =	0.000 tons/yr for RAP
Total PM-10:			**0.003** tons/yr

Emissions before controls (combustion plus production) are as follows:

natural gas		#2 oil		#4 oil Plus Hot Oil Heater on #2		waste oil	
P M:	**16720** tons/yr	P M:	**16724.2** tons/yr	P M:	**0.000** tons/yr	P M:	**0.000** tons/yr
P M-10:	**3870** tons/yr	P M-10:	**3876.8** tons/yr	P M-10:	**0.000** tons/yr	P M-10:	**0.000** tons/yr
S O x:	**0.002** tons/yr	S O x:	**29.4** tons/yr	S O x:	**1.678** tons/yr	S O x:	**0.000** tons/yr
N O x:	**0.3** tons/yr	N O x:	**39.5** tons/yr	N O x:	**0.473** tons/yr	N O x:	**0.000** tons/yr
V O C:	**0.018** tons/yr	V O C:	**0.672** tons/yr	V O C:	**0.008** tons/yr	V O C:	**0.000** tons/yr
C O:	**0.3** tons/yr	C O:	**9.9** tons/yr	C O:	**0.118** tons/yr	C O:	**0.000** tons/yr
Lead:	**0.003** tons/yr	Lead:	**0.003** tons/yr	Lead:	**0.003** tons/yr	Lead:	**0.003** tons/yr
HAPs:	**5.08** tons/yr	HAPs:	**5.08** tons/yr	HAPs:	**5.081** tons/yr	HAPs:	**0.000** tons/yr

B. Source emissions after controls

dryer combustion: gas

P M:	0.00 tons/yr x	**1.00000**	emitted after controls =	**0.000**	tons/yr
P M-10:	0.00 tons/yr x	**1.00000**	emitted after controls =	**0.000**	tons/yr

dryer combustion: #2 oil

P M:	3.91 tons/yr x	**1.00000**	emitted after controls =	**3.907**	tons/yr
P M-10:	6.45 tons/yr x	**1.00000**	emitted after controls =	**6.447**	tons/yr

hot oil heater combustion: gas

P M:	0.006 tons/yr x	**1.00000**	emitted after controls =	**0.006**	tons/yr
P M-10:	0.025 tons/yr x	**1.00000**	emitted after controls =	**0.025**	tons/yr

hot oil heater combustion: #2 oil

P M:	0.047 tons/yr x	**1.00000**	emitted after controls =	**0.047**	tons/yr
P M-10:	0.078 tons/yr x	**1.00000**	emitted after controls =	**0.078**	tons/yr

dryer combustion: #4 oil

P M:	0.00 tons/yr x	**1.00000**	emitted after controls =	**0.000**	tons/yr
P M-10:	0.00 tons/yr x	**1.00000**	emitted after controls =	**0.000**	tons/yr

dryer combustion: waste oil

P M:	0.00 tons/yr x	**1.000**	emitted after controls =	**0.000**	tons/yr
P M-10:	0.00 tons/yr x	**1.000**	emitted after controls =	**0.000**	tons/yr

aggregate drying:

P M:	16644.00 tons/yr x	**1.00000**	emitted after controls =	**16644.000**	tons/yr
P M-10:	3854.40 tons/yr x	**1.00000**	emitted after controls =	**3854.400**	tons/yr

conveying/handling:

P M:	2.43 tons/yr x	**1.000**	emitted after controls =	**2.426**	tons/yr
P M-10:	0.24 tons/yr x	**1.000**	emitted after controls =	**0.243**	tons/yr

screening

P M:	0.00 tons/yr x	**1.000**	emitted after controls =	**0.000**	tons/yr
P M-10:	0.00 tons/yr x	**1.000**	emitted after controls =	**0.000**	tons/yr

unpaved roads:

P M:	73.77 tons/yr x	50.00%	emitted after controls =	**36.883**	tons/yr
P M-10:	15.61 tons/yr x	50.00%	emitted after controls =	**7.806**	tons/yr

storage:

P M:	0.008 tons/yr x	50.00%	emitted after controls =	**0.004**	tons/yr
P M-10:	0.003 tons/yr x	50.00%	emitted after controls =	**0.001**	tons/yr

Emissions after controls (combustion plus production) are as follows:

	Gas	#2 Oil	#4 Oil	Waste Oil	
P M:	**0.0**	**16687.3**	**0.000**	**0.000**	tons/yr
P M-10:	**0.0**	**3869.0**	**0.000**	**0.000**	tons/yr

II. Allowable Emissions

A. The following calculations determine compliance with 326 IAC 6-1 and NSPS Subpart I, which limits stack emissions to no more than 0.03 gr/dscf and 0.04 gr/dscf, respectively.

$$0.03 \frac{\text{grains}}{\text{dscf}} * \text{**2714.000** acfm} * \frac{528}{460 + \text{**150** Temp}} * \frac{100 - \text{5 \% moisture}}{100} * 525600 \frac{\text{minutes}}{\text{year}} * \frac{1}{7000 \text{ grains}} * \frac{1 \text{ ton}}{2000 \text{ lbs}} = \text{**2.514** tons/yr}$$

To meet NSPS Subpart I, the following value must be < amount calculated above **16648.0** tons/yr

B. The following calculations determine the maximum sulfur content of distillate #2 fuel oil allowable by 326 IAC 7:

limit:	0.5 lbs/MMBtu			
	0.5 lbs/MMBtu x	**139000.0**	Btu/gal=	**69.5** lbs/1000gal
	69.5 lbs/1000gal /	**142.0**	lb/1000 gal =	**0.489**

Sulfur content must be less than or equal to **0.489** % to comply with 326 IAC 7
and to limit SO2 emissions to 99 tons per year or less.

C. The following calculations determine the maximum sulfur content of residual waste fuel oil allowable by 326-IAC 7:

limit:	1.6 lbs/MMBtu			
	1.6 lbs/MMBtu x	**0.000**	Btu/gal=	0 lbs/1000gal
	0 lbs/1000gal /	**100.0**	lbs/1000 gal = (check burner type)	**0.000**

Sulfur content must be less than or equal to **0.000** % to comply with 326 IAC 7
and to limit SO2 emissions to 99 tons per year or less.

D. The following calculations determine the maximum sulfur content of distillate #4 fuel oil allowable by 326-IAC 7:

limit:	0.5 lbs/MMBtu				
	0.5 lbs/MMBtu x	**139000.000** Btu/gal=		69.5 lbs/1000gal	
	69.5 lbs/1000gal /	**150.0** lbs/1000 gal =		**0.463**	

Sulfur content must be less than or equal to **0.463** % to comply with 326 IAC 7
and to limit SO2 emissions to 99 tons per year or less.

III. Limited Potential Emissions

FUEL USAGE LIMITATION: BASED ON NOx

FUEL USAGE LIMITATION FOR HOT OIL HEATER ALONE (OIL)

0.473	tons NOx / year	*	2000	lbs / ton	=	945.32	lbs NOx / year
945.32374100719	lbs NOx / year	/	20	lbs NOx / kgal	=	47.27	kgal / year
47.27	kgal / year	*	100.00 0.4726618705	tons/year tons/year	=	**0.0**	gal fuel / year

FUEL USAGE LIMITATION FOR BURNER & HEATER (Gas)

0.329	tons NOx / year	*	2000	lbs / ton	=	657	lbs NOx / year	
657	lbs NOx / year	/	**100.0**	lbs NOx / MMcf	=	6.57	MMcf / year	
6.57	MMcf / year	*	**100.0** 0.33	tons/yr tons/yr	=	**0.0**	MMcf / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER & HEATER (#2 Oil)

39.55	tons NOx / year	*	2000	lbs / ton	=	79092.09	lbs NOx / year	
79092.09	lbs NOx / year	/	20	lbs / 1000 gal	=	3954.60	kgal / year	
3954.60	kgal / year	*	**100.0** 39.55	tons/yr tons/yr	=	**0.0**	kgal / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER (#4 Oil)

0.47	tons NOx / year	*	2000	lbs / ton	=	945.32	lbs NOx / year	
945.32	lbs NOx / year	/	**0.0**	lbs / 1000 gal	=	0.00	kgal / year	
0.00	kgal / year	*	**100.0** / 0.47	tons/yr / tons/yr	=	**0.0**	kgal / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER (Waste Oil)

0.00	tons NOx / year	*	2000	lbs / ton	=	0.00	lbs NOx / year	
0.00	lbs NOx / year	/	**0.0**	lbs / 1000 gal	=	0.00	kgal / year	
0.00	kgal / year	*	**100.0** / 0.00	tons/yr / tons/yr	=	**0.0**	kgal / year	FESOP Limit

FUEL USAGE LIMITATION: BASED ON SO2

FUEL USAGE LIMITATION FOR HOT OIL HEATER ON OIL

1.68	tons SO2 / year	*	2000	lbs / ton	=	3355.8992806	lbs SO2 / year	
3355.8992805755	lbs SO2 / year	/	**71.0**	lbs SO2 / kgal	=	47.27	kgal / year	
47.26618705036	kgal / year	*	100.00 / 1.67794964029	tons/year / tons/year	=	**0.0**	gal fuel / year	

FUEL USAGE LIMITATION FOR BURNER AND HOT OIL HEATER (Gas)

0.002	tons SO2 / year	*	2000	lbs / ton	=	3.94	lbs SO2 / year	
3.94	lbs SO2 / year	/	**0.6**	lbs SO2 / MMcf	=	6.57	MMcf / year	
6.57	MMcf / year	*	**100.0** / 0.00	tons/yr / tons/yr	=	**0.0**	MMcf / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER & HEATER (#2 Oil)

29.4	tons SO2 / year	*	2000	lbs / ton	=	58840.10	lbs SO2 / year
58840.10	lbs SO2 / year	/	**71.0**	lbs / 1000 gal	=	828733.81295	gal / year
828733.81	gal / year	*	**96.735** / 29.42	tons/yr / tons/yr	=	0.0	gal / year FESOP Limit

FUEL USAGE LIMITATION FOR BURNER (#4 Oil) See Below for calculation of #4 oil limit

1.7	tons SO2 / year	*	2000	lbs / ton	=	3355.8992806	lbs SO2 / year
3355.90	lbs SO2 / year	/	**0.0**	lbs / 1000 gal	=	0	gal / year
0.00	gal / year	*	**100.0** / 1.68	tons/yr / tons/yr	=	**0.0**	gal / year FESOP Limit

FUEL USAGE LIMITATION FOR BURNER (Waste Oil)

0.0	tons SO2 / year	*	2000	lbs / ton	=	0.00	lbs SO2 / year
0.00	lbs SO2 / year	/	**0.0**	lbs / 1000 gal	=	0.00	gal / year
0.00	gal / year	*	**100.0** / 0.00	tons/yr / tons/yr	=	**0.0**	gal / year FESOP Limit

Diesel Generator, E 34 rated at 205 kilowatts

Mechanical Output Horsepower (hp)	Potential Throughput hp-hr/yr
274.9	274.9 / 2408167.8

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	2.65	2.65	2.47	37.33	3.03	8.04

Methodology
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Mechanical Horsepower = 1.341 kilowatts
Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2
Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Emission (tons/yr) = [Potential Throughput (hp-/hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Company Name: Caldwell Gravel Sales, Inc. (CGS) - Plant W-2
Plant Location: 11380 North 300 East, Morristown, Indiana 46161
County: Shelby
Part 70: T 145-14524
Plt. ID: 145-00060, 05056 & 05202
Date: May 18, 2001
Permit Reviewer: Mark L. Kramer

Plant W-2
Portable Warm Drum Mix Asplant

I. Potential Emissions

A. Source emissions before controls

Hot Oil Heater on Oil (oil/<100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by #2 & #1 distillate fuel oil @ **0.5** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **0.750** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
139000.0 Btu/gal * 2000 lbs/ton

P M:	2.0 lbs/1000 gal =	**0.047**	tons/yr
PM-10	3.3 lbs/1000 gal =	**0.078**	tons/yr
S O x:	71.0 lbs/1000 gal =	**1.678**	tons/yr
N O x:	20.0 lbs/1000 gal =	**0.473**	tons/yr
V O C:	0.34 lbs/1000 gal =	**0.008**	tons/yr
C O:	5.0 lbs/1000 gal =	**0.118**	tons/yr

Hot Oil Heater on Gas (gas/<100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3

Pollutant: **0.750** MMBtu/hr * 8760 hrs/yr * Ef (lbs/MMcf) = (tons/yr)
1000 Btu/cf * 2000 lbs/ton

P M:	1.9 lbs/MMcf =	**0.006**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.025**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.002**	tons/yr
N O x:	100.0 lbs/MMcf =	**0.329**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.018**	tons/yr
C O:	84.0 lbs/MMcf =	**0.276**	tons/yr

Dryer Burner (gas/<100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/MMcf) = (tons/yr)
1000 Btu/cf * 2000 lbs/ton

P M:	1.9 lbs/MMcf =	**0.0000**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.000**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.000**	tons/yr
N O x:	100.0 lbs/MMcf =	**0.0000**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.000**	tons/yr
C O:	84.0 lbs/MMcf =	**0.000**	tons/yr

Dryer Burner (gas/>100MMBTU/uncontrolled)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/MMcf) (tons/yr)
1000 Btu/cf * 2000 lbs/ton

P M:	1.9 lbs/MMcf =	**0.000**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.000**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.000**	tons/yr
N O x:	280.0 lbs/MMcf =	**0.00**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.000**	tons/yr
C O:	84.0 lbs/MMcf =	**0.000**	tons/yr

Dryer Burner (gas/>100MMBTU/low nox)

The following calculations determine the amount of emissions created by natural gas combustion, based on 8760 hours of use, AP-42 Ch. 1.4, Tables 1.4-1, 1.4-2, 1.4-3 (low NOx burner = 140, flue gas recirculation = 100)

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/MMcf) (tons/yr)
1000 Btu/cf * 2000 lbs/ton

P M:	1.9 lbs/MMcf =	**0.000**	tons/yr
P M-10:	7.6 lbs/MMcf =	**0.000**	tons/yr
S O x:	0.6 lbs/MMcf =	**0.000**	tons/yr
N O x:	140.0 lbs/MMcf =	**0.000**	tons/yr
V O C:	5.5 lbs/MMcf =	**0.000**	tons/yr
C O:	84.0 lb/MMcf =	**0.000**	tons/yr

(#2 & #1 oil) Dryer Burner <100

The following calculations determine the amount of emissions created by #2 & #1 distillate fuel oil @ **0.1** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **62.0** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
139000.0 Btu/gal * 2000 lbs/ton

P M:	2.0 lbs/1000 gal =	**3.907**	tons/yr
PM-10:	3.3 lbs/1000 gal =	**6.447**	tons/yr
S O x:	14.2 lbs/1000 gal =	**27.742**	tons/yr
N O x:	20.0 lbs/1000 gal =	**39.073**	tons/yr
V O C:	0.34 lbs/1000 gal =	**0.664**	tons/yr
C O:	5.0 lbs/1000 gal =	**9.768**	tons/yr

If Rating >100 mmBt	
N O x:	**24.0**
V O C:	**0.20**

(#4 oil/ <100MMBTU) Dryer Burner

The following calculations determine the amount of emissions created by #4 distillate fuel oil @ **0.5** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr * Ef (lbs/1000 gal) = (tons/yr)
138000.0 Btu/gal * 2000 lbs/ton

P M:	2.0 lbs/1000 gal =	**0.000**	tons/yr
PM-10:	3.3 lbs/1000 gal =	**0.000**	tons/yr
S O x:	71.0 lbs/1000 gal =	**0.000**	tons/yr
N O x:	20.0 lbs/1000 gal =	**0.000**	tons/yr
V O C:	0.34 lbs/1000 gal =	**0.000**	tons/yr
C O:	5.0 lbs/1000 gal =	**0.000**	tons/yr

(#4 oil/ >100MMBTU) Dryer Burner

The following calculations determine the amount of emissions created by #4 distillate fuel oil @ **0.000** % sulfur, based on 8760 hours of use and AP-42, Tables 1.3-1, 1.3-2, 1.3-3

Pollutant: **0.0** MMBtu/hr * 8760 hrs/yr / **0.0** Btu/gal * 2000 lbs/ton * Ef (lbs/1000 gal) = (tons/yr)

P M:	2.0	lbs/1000 gal =	**0.000** tons/yr
PM-10:	3.3	lbs/1000 gal =	**0.000** tons/yr
S O x:	0.0	lbs/1000 gal =	**0.000** tons/yr
N O x:	24.0	lbs/1000 gal =	**0.000** tons/yr
V O C:	0.20	lbs/1000 gal =	**0.000** tons/yr
C O:	5.0	lbs/1000 gal =	**0.000** tons/yr

(waste oil/ vaporizing burner)

The following calculations determine the amount of emissions created by waste fuel oil @ **0.500** % sulfur, based on 8760 hours of use and AP-42, Chapter 1.11

0.000 **% Ash**
0.000 **% Lead**

Pollutant: **0.0** MMBtu/hr * 8760 hrs/yr / **0.0** Btu/gal * 2000 lbs/ton * Ef (lbs/1000 gal) = (tons/yr)

P M:	0.0	lbs/1000 gal =	**0.000** tons/yr
P M-10:	0.0	lbs/1000 gal =	**0.000** tons/yr
S O x:	50.0	lbs/1000 gal =	**0.000** tons/yr
N O x:	11.0	lbs/1000 gal =	**0.000** tons/yr
VOC	1.0	lbs/1000 gal =	**0.000** tons/yr
C O:	1.7	lbs/1000 gal =	**0.000** tons/yr
Pb:	0.0	lbs/1000 gal =	**0.000** tons/yr

(waste oil/atomizing burner)

The following calculations determine the amount of emissions created by waste fuel oil @ **0.000** % sulfur, based on 8760 hours of use andAP-42 Chapter 1.11

0.000 **% Ash**
0.000 **% Lead**

Pollutant: **0.000** MMBtu/hr * 8760 hrs/yr / **0.000** Btu/gal * 2000 lbs/ton * Ef (lbs/1000 gal) = (tons/yr)

P M:	0.0	lbs/1000 gal =	**0.000** tons/yr
P M-10:	0.0	lbs/1000 gal =	**0.000** tons/yr
S O x:	0.0	lbs/1000 gal =	**0.000** tons/yr
N O x:	16.0	lbs/1000 gal =	**0.000** tons/yr
VOC	1.0	lbs/1000 gal =	**0.000** tons/yr
C O:	2.10	lbs/1000 gal =	**0.000** tons/yr
Pb:	0.00	lbs/1000 gal =	**0.000** tons/yr

* * aggregate drying: drum-mix plant * *

The following calculations determine the amount of emissions created by aggregate drying, based on 8760 hours of use and EPA SCC #3-05-002-05:

P M:	19	lbs/ton x	**200.0**	tons/hr x	8760	hrs/yr =	**16644.000**	tons/yr
			2000	lbs/ton				
P M-10:	4.4	lbs/ton x	200	tons/hr x	8760	hrs/yr =	**3854.400**	tons/yr
			2000	lbs/ton				
Lead:	3.30000000E-06	lbs/ton x	200	tons/hr x	8760	hrs/yr =	**0.003**	tons/yr
			2000	lbs/ton				
HAPs:	0.0058	lbs/ton x	200	tons/hr x	8760	hrs/yr =	**5.081**	tons/yr
			2000	lbs/ton				

HAPs include benzene, ethylbenzene, formaldehyde, methyl chloroform, naphthalene, toluene, xylene; arsenic, cadmium, chromium, manganese, mercury, and nickel compounds.

* * aggregate drying: batch-mix plant * *

The following calculations determine the amount of emissions created by aggregate drying, based on 8760 hours of use and EPA SCC #3-05-002-05:

P M:	32	lbs/ton x	**0.0**	tons/hr x	8760	hrs/yr =	**0.0**	tons/yr
			2000	lbs/ton				
P M-10:	4.5	lbs/ton x	0	tons/hr x	8760	hrs/yr =	**0.0**	tons/yr
			2000	lbs/ton				
Lead:	3.30000000E-06	lbs/ton x	0	tons/hr x	8760	hrs/yr =	**0.000**	tons/yr
			2000	lbs/ton				
HAPs:	0.0058	lbs/ton x	0	tons/hr x	8760	hrs/yr =	**0.000**	tons/yr
			2000	lbs/ton				

HAPs include benzene, ethylbenzene, formaldehyde, methyl chloroform, naphthalene, toluene, xylene; arsenic, cadmium, chromium, manganese, mercury, and nickel compounds.

* * conveying / handling * *

The following calculations determine the amount of emissions created by material handling of aggregate, based on 8760 hours of use and AP-42, Ch 11.19.2

Ef = .0032* (U/5)^1.3 * k = (M/2)^1.4 = **0.003** lbs/ton

where k= 1 (particle size multiplier)
U = 12 mph mean wind speed (worst case)
M = **5.0** % moisture

P M :	**0.003**	lbs/ton x	**200**	tons/hr x	8760	hrs/yr =	**2.426**	tons/yr
			2000	lbs/ton				
P M-10:	10%	of PM =					**0.243**	tons/yr

Screening	PM:	**0**	tons/hr x	0.0315	lbs/ton	/ 2000 lbs/ton x	8760	hrs/yr =	**0.000** tons/yr	AP-42 Ch.11.19.2
	P M-10:	10%	of PM =						**0.000** tons/yr	

* * unpaved roads * *

The following calculations determine the amount of emissions created by vehicle traffic on unpaved roads, based on 8760 hours of use and AP-42, Ch 11.2.1.

A. Double-axle Truck

9.5 trips/hr x
0.20 miles/roundtrip x
8760 hrs/yr = **16685.7** miles per year

For PM		For PM-10	
	Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
8.84	=	1.87	lb/mile
10	where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
4.8	s =	4.8	mean % silt content of unpaved roads
0.5	b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
0.4	c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
24	W =	24	tons average vehicle weight
0.2	Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
125	p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

8.84 lb/mi x 16685.7142857 mi/yr = PM **73.77** tons/yr
2000 lb/ton

1.87 lb/mi x 16685.7142857 mi/yr = PM-10 **15.61** tons/yr
2000 lb/ton

B. Front End Loader

0.0 trips/hr x
0.000 miles/roundtrip x
8760 hrs/yr = **0.0** miles per year

For PM		For PM-10	
	Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
11.24	=	2.27	lb/mile
10	where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
4.8	s =	4.8	mean % silt content of unpaved roads
0.5	b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
0.4	c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
38	W =	38	tons average vehicle weight
0.2	Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
125	p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

11.24 lb/mi x 0 mi/yr = PM **0.00** tons/yr
2000 lb/ton

2.27 lb/mi x 0 mi/yr = PM-10 **0.00** tons/yr
2000 lb/ton

C. Semi Truck

0.0	trips/hr x					
0.0	miles/roundtrip x					
8760	hrs/yr =		**0.0** miles per year			

For PM		**For PM-10**	
	Ef =	{k*[(s/12)^0.8]*[(W/3)^b]/[(Mdry/0.2)^c]}*[(365-p)/365]	
11.24	=	2.27	lb/mile
10	where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
4.8	s =	4.8	mean % silt content of unpaved roads
0.5	b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)
0.4	c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)
38	W =	38	tons average vehicle weight
0.2	Mdry =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)
125	p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)

	11.24	lb/mi x	0 mi/yr =		PM	**0.00** tons/yr
		2000	lb/ton			
	2.27	lb/mi x	0 mi/yr =		PM-10	**0.00** tons/yr
		2000	lb/ton			

All Trucking	Total PM:	**73.77**	tons/yr
	Total PM-10:	**15.61**	tons/yr

* * storage * *

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8760 hours of use and AP-42, Ch 11.2.3.

Ef =	1.7*(s/1.5)*(365-p)/235*(f/15)	
=	1.74	lbs/acre/day for sand
=	1.16	lbs/acre/day for stone
=	1.16	lbs/acre/day for slag
=	1.16	lbs/acre/day for gravel
=	1.16	lbs/acre/day for RAP
where s =	1.5	% silt for sand
s =	1.0	% silt of stone
s =	1.0	% silt of slag
s =	1.0	% silt of gravel
s =	1.0	% silt for RAP
p =	125	days of rain greater than or equal to 0.01 inches
f =	15	% of wind greater than or equal to 12 mph

Ep (storage) = Ef * sc * (20 cuft/ton) * (365 days/yr) / (2000 lbs/ton)*(43560 sqft/acre)*(25 ft)

=	0.002	tons/yr for sand
=	0.006	tons/yr for stone
=	0.000	tons/yr for slag
=	0.000	tons/yr for gravel
=	0.000	tons/yr for RAP
Total PM:	**0.008**	tons/yr

where sc =	**0.350**	,000 tons storage capacity for sand
sc =	**1.650**	,000 tons storage capacity for stone
sc =	**0**	,000 tons storage capacity for slag
sc =	**0**	,000 tons storage capacity for gravel
sc =	**0**	,000 tons storage capacity for RAP

P M-10:	35%	of PM =	0.001 tons/yr for sand
	35%	of PM =	0.002 tons/yr for stone
	35%	of PM =	0.000 tons/yr for slag
	35%	of PM =	0.000 tons/yr for gravel
	35%	of PM =	0.000 tons/yr for RAP
Total PM-10:			**0.003** tons/yr

Emissions before controls (combustion plus production) are as follows:

natural gas		#2 oil		#4 oil Plus Hot Oil Heater on #2		waste oil	
P M:	**16720** tons/yr	P M:	**16724.2** tons/yr	P M:	**0.000** tons/yr	P M:	**0.000** tons/yr
P M-10:	**3870** tons/yr	P M-10:	**3876.8** tons/yr	P M-10:	**0.000** tons/yr	P M-10:	**0.000** tons/yr
S O x:	**0.002** tons/yr	S O x:	**29.4** tons/yr	S O x:	**1.678** tons/yr	S O x:	**0.000** tons/yr
N O x:	**0.3** tons/yr	N O x:	**39.5** tons/yr	N O x:	**0.473** tons/yr	N O x:	**0.000** tons/yr
V O C:	**0.018** tons/yr	V O C:	**0.672** tons/yr	V O C:	**0.008** tons/yr	V O C:	**0.000** tons/yr
C O:	**0.3** tons/yr	C O:	**9.9** tons/yr	C O:	**0.118** tons/yr	C O:	**0.000** tons/yr
Lead:	**0.003** tons/yr	Lead:	**0.003** tons/yr	Lead:	**0.003** tons/yr	Lead:	**0.003** tons/yr
HAPs:	**5.08** tons/yr	HAPs:	**5.08** tons/yr	HAPs:	**5.081** tons/yr	HAPs:	**0.000** tons/yr

B. Source emissions after controls

dryer combustion: gas

P M:	0.00 tons/yr x	**1.00000**	emitted after controls =	**0.000**	tons/yr
P M-10:	0.00 tons/yr x	**1.00000**	emitted after controls =	**0.000**	tons/yr

dryer combustion: #2 oil

P M:	3.91 tons/yr x	**1.00000**	emitted after controls =	**3.907**	tons/yr
P M-10:	6.45 tons/yr x	**1.00000**	emitted after controls =	**6.447**	tons/yr

hot oil heater combustion: gas

P M:	0.006 tons/yr x	**1.00000**	emitted after controls =	**0.006**	tons/yr
P M-10:	0.025 tons/yr x	**1.00000**	emitted after controls =	**0.025**	tons/yr

hot oil heater combustion: #2 oil

P M:	0.047 tons/yr x	**1.00000**	emitted after controls =	**0.047**	tons/yr
P M-10:	0.078 tons/yr x	**1.00000**	emitted after controls =	**0.078**	tons/yr

dryer combustion: #4 oil

P M:	0.00 tons/yr x	**1.00000**	emitted after controls =	**0.000**	tons/yr
P M-10:	0.00 tons/yr x	**1.00000**	emitted after controls =	**0.000**	tons/yr

dryer combustion: waste oil

P M:	0.00 tons/yr x	**1.000**	emitted after controls =	**0.000**	tons/yr
P M-10:	0.00 tons/yr x	**1.000**	emitted after controls =	**0.000**	tons/yr

aggregate drying:

P M:	16644.00 tons/yr x	**1.00000**	emitted after controls =	**16644.000**	tons/yr
P M-10:	3854.40 tons/yr x	**1.00000**	emitted after controls =	**3854.400**	tons/yr

conveying/handling:

P M:	2.43 tons/yr x	**1.000**	emitted after controls =	**2.426**	tons/yr
P M-10:	0.24 tons/yr x	**1.000**	emitted after controls =	**0.243**	tons/yr

screening

P M:	0.00 tons/yr x	**1.000**	emitted after controls =	**0.000**	tons/yr
P M-10:	0.00 tons/yr x	**1.000**	emitted after controls =	**0.000**	tons/yr

unpaved roads:

P M:	73.77 tons/yr x	50.00%	emitted after controls =	**36.883**	tons/yr
P M-10:	15.61 tons/yr x	50.00%	emitted after controls =	**7.806**	tons/yr

storage:

P M:	0.008 tons/yr x	50.00%	emitted after controls =	**0.004**	tons/yr
P M-10:	0.003 tons/yr x	50.00%	emitted after controls =	**0.001**	tons/yr

Emissions after controls (combustion plus production) are as follows:

	Gas	#2 Oil	#4 Oil	Waste Oil	
P M:	**0.0**	**16687.3**	**0.000**	**0.000**	tons/yr
P M-10:	**0.0**	**3869.0**	**0.000**	**0.000**	tons/yr

II. Allowable Emissions

A. The following calculations determine compliance with 326 IAC 6-1 and NSPS Subpart I, which limits stack emissions from asphalt plants to no more than 0.03 gr/dscf and 0.04 gr/dscf, respectively.

$$0.03 \frac{\text{grains}}{\text{dscf}} * \textbf{2714.000}\ \text{acfm} * \frac{528}{460 + \textbf{150}\ \text{Temp}} * \frac{100 - 5\ \%\ \text{moisture}}{100} * 525600 \frac{\text{minutes}}{\text{year}} * \frac{1}{7000\ \text{grains}} * \frac{1\ \text{ton}}{2000\ \text{lbs}} = \textbf{2.514}\ \text{tons/yr}$$

To meet NSPS Subpart I, the following value must be < amount calculated above **16648.0** tons/yr

B. The following calculations determine the maximum sulfur content of distillate #2 fuel oil allowable by 326 IAC 7:

limit:	0.5 lbs/MMBtu			
	0.5 lbs/MMBtu x	**139000.0**	Btu/gal=	**69.5** lbs/1000gal
	69.5 lbs/1000gal /	**142.0**	lb/1000 gal =	**0.489**

Sulfur content must be less than or equal to **0.489** % to comply with 326 IAC 7
and to limit SO2 emissions to 99 tons per year or less.

C. The following calculations determine the maximum sulfur content of residual waste fuel oil allowable by 326-IAC 7:

limit:	1.6 lbs/MMBtu			
	1.6 lbs/MMBtu x	**0.000**	Btu/gal=	0 lbs/1000gal
	0 lbs/1000gal /	**100.0**	lbs/1000 gal = (check burner type)	**0.000**

Sulfur content must be less than or equal to **0.000** % to comply with 326 IAC 7
and to limit SO2 emissions to 99 tons per year or less.

D. The following calculations determine the maximum sulfur content of distillate #4 fuel oil allowable by 326-IAC 7:

limit:	0.5 lbs/MMBtu				
	0.5 lbs/MMBtu x	**139000.000** Btu/gal=		69.5 lbs/1000gal	
	69.5 lbs/1000gal /	**150.0** lbs/1000 gal =		**0.463**	

Sulfur content must be less than or equal to **0.463** % to comply with 326 IAC 7
and to limit SO2 emissions to 99 tons per year or less.

III. Limited Potential Emissions

FUEL USAGE LIMITATION: BASED ON NOx

FUEL USAGE LIMITATION FOR HOT OIL HEATER ALONE (OIL)

0.473	tons NOx / year	*	2000	lbs / ton	=	945.32	lbs NOx / year
945.32374100719	lbs NOx / year	/	20	lbs NOx / kgal	=	47.27	kgal / year
47.27	kgal / year	*	100.00 0.4726618705	tons/year tons/year	=	**0.0**	gal fuel / year

FUEL USAGE LIMITATION FOR BURNER & HEATER (Gas)

0.329	tons NOx / year	*	2000	lbs / ton	=	657	lbs NOx / year	
657	lbs NOx / year	/	**100.0**	lbs NOx / MMcf	=	6.57	MMcf / year	
6.57	MMcf / year	*	**100.0** 0.33	tons/yr tons/yr	=	**0.0**	MMcf / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER & HEATER (#2 Oil)

39.55	tons NOx / year	*	2000	lbs / ton	=	79092.09	lbs NOx / year	
79092.09	lbs NOx / year	/	20	lbs / 1000 gal	=	3954.60	kgal / year	
3954.60	kgal / year	*	**100.0** 39.55	tons/yr tons/yr	=	**0.0**	kgal / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER (#4 Oil)

0.47	tons NOx / year	*	2000	lbs / ton	=	945.32	lbs NOx / year	
945.32	lbs NOx / year	/	**0.0**	lbs / 1000 gal	=	0.00	kgal / year	
0.00	kgal / year	*	**100.0** / 0.47	tons/yr / tons/yr	=	**0.0**	kgal / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER (Waste Oil)

0.00	tons NOx / year	*	2000	lbs / ton	=	0.00	lbs NOx / year	
0.00	lbs NOx / year	/	**0.0**	lbs / 1000 gal	=	0.00	kgal / year	
0.00	kgal / year	*	**100.0** / 0.00	tons/yr / tons/yr	=	**0.0**	kgal / year	FESOP Limit

FUEL USAGE LIMITATION: BASED ON SO2

FUEL USAGE LIMITATION FOR HOT OIL HEATER ON OIL

1.68	tons SO2 / year	*	2000	lbs / ton	=	3355.8992806	lbs SO2 / year	
3355.8992805755	lbs SO2 / year	/	**71.0**	lbs SO2 / kgal	=	47.27	kgal / year	
47.26618705036	kgal / year	*	100.00 / 1.67794964029	tons/year / tons/year	=	**0.0**	gal fuel / year	

FUEL USAGE LIMITATION FOR BURNER AND HOT OIL HEATER (Gas)

0.002	tons SO2 / year	*	2000	lbs / ton	=	3.94	lbs SO2 / year	
3.94	lbs SO2 / year	/	**0.6**	lbs SO2 / MMcf	=	6.57	MMcf / year	
6.57	MMcf / year	*	**100.0** / 0.00	tons/yr / tons/yr	=	**0.0**	MMcf / year	FESOP Limit

FUEL USAGE LIMITATION FOR BURNER & HEATER (#2 Oil)

29.4	tons SO2 / year	*	2000	lbs / ton	=	58840.10	lbs SO2 / year
58840.10	lbs SO2 / year	/	**71.0**	lbs / 1000 gal	=	828733.81295	gal / year
828733.81	gal / year	*	**96.735** / 29.42	tons/yr / tons/yr	=	0.0	gal / year FESOP Limit

FUEL USAGE LIMITATION FOR BURNER (#4 Oil) See Below for calculation of #4 oil limit

1.7	tons SO2 / year	*	2000	lbs / ton	=	3355.8992806	lbs SO2 / year
3355.90	lbs SO2 / year	/	**0.0**	lbs / 1000 gal	=	0	gal / year
0.00	gal / year	*	**100.0** / 1.68	tons/yr / tons/yr	=	**0.0**	gal / year FESOP Limit

FUEL USAGE LIMITATION FOR BURNER (Waste Oil)

0.0	tons SO2 / year	*	2000	lbs / ton	=	0.00	lbs SO2 / year
0.00	lbs SO2 / year	/	**0.0**	lbs / 1000 gal	=	0.00	gal / year
0.00	gal / year	*	**100.0** / 0.00	tons/yr / tons/yr	=	**0.0**	gal / year FESOP Limit

Diesel Generator, E 33, rated at 175 Kilowatts

234.7	234.7
Mechanical Output Horsepower (hp)	Potential Throughput hp-hr/yr
234.7	2055753.0

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	2.26	2.26	2.11	31.86	2.58	6.87

Methodology
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Mechanical Horsepower = 1.341 kilowatts
Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2
Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Emission (tons/yr) = [Potential Throughput (hp-/hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Company Name: **Caldwell Gravel Sales, Inc. (CGS)**
Address City IN Zip: **11380 North 300 East, Morristown, Indiana 46161**
County: **Shelby**
Part 70: **T 145-14524**
Plt ID: **T: 145-00060, 05056 & 05202**
Reviewer: **Mark L. Kramer**
Date: **May 18, 2001**

Summary of Insignificant Activities Combustion by Plant/Permit

Diesel Engines by Plant/Permit

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Portable W-1						
E 34, @205 KW	2.65	2.65	2.47	37.33	3.03	8.04
Portable W-2	2.26	2.26	2.11	31.86	2.58	6.87
E 33 @175 KW =						
Subtotal Generators	**4.91**	**4.91**	**4.58**	**69.19**	**5.61**	**14.91**
Propane						
S-1 Plant						
1 space heater @ 0.375	**0.011**	**0.011**	**0.155**	**0.341**	**0.0050**	**0.057**
Kerosene						
S-1 Plant						
1 space heater @ 0.200	**0.217**	**0.208**	**0.0402**	**3.04**	**0.208**	**0.662**

Caldwell Gravel Sales, Inc. (CGS)
Dryer 0.1%S
Oil Heater 0.5%S

Summary After Controls

T 145-14524

		PM	PM10	SO2	NOx	VOC	CO
Portable W-1							
Dryer/Burner	Combustion + Drying (0.03)	2.51	2.51	27.7	39.1	0.664	9.77
Oil Heater	Combustion	0.047	0.078	1.68	0.473	0.018	0.276
Conveying		2.43	0.243	0.000	0.000	0.000	0.000
Fugitive Storage & Roads		36.9	7.81	0.000	0.000	0.000	0.000
Portable W-2							
Dryer/Burner	Combustion + Drying (0.03)	2.51	2.51	27.7	39.1	0.664	9.77
Oil Heater	Combustion	0.047	0.078	1.68	0.473	0.018	0.276
Dryer							
Conveying		2.43	0.243	0.000	0.000	0.000	0.000
Fugitive Storage & Roads		36.9	7.81	0.000	0.000	0.000	0.000
Stationary Plant S-1							
Dryer/Burner	Combustion	0.002	0.003	28.6	40.3	1.54	23.5
Oil Heater	Combustion	0.095	0.156	3.36	0.945	0.036	0.552
Dryer		4.39	1.02	0.000	0.000	0.000	0.000
Conveying		1.53	0.153	0.000	0.000	0.000	0.000
Fugitive Storage & Roads		24.347	5.153	0.000	0.000	0.000	0.000

Appendix A: Summary Emission Calculations

Source Wide PTE With Control

Grand Summary Of Contributions by PLANT	**PM TPY**	**PM10 TPY**	**SO2 TPY**	**NOx TPY**	**VOC TPY**	**CO TPY**
Portable Asphalt Plant W-1	**44.54**	**13.29**	**31.85**	**76.90**	**3.71**	**18.09**
Portable Asphalt Plant W-2	**44.15**	**12.90**	**31.49**	**71.43**	**3.26**	**16.92**
Stationary Asphalt Plant S-1	**30.59**	**6.70**	**32.16**	**44.63**	**1.79**	**24.77**
Grand Total	**119.3**	**32.9**	**95.5**	**193.0**	**8.76**	**59.8**

Note other PM, PM-10 & VOC Insignificant Activity of 1 ton/yr for W-1 and W-2, each

(1) The emission rate (E) of acid mist or SO_2 shall be computed for each run using the following equation:

$E=(CQ_{sd})/(PK)$

where:

E=emission rate of acid mist or SO_2 kg/metric ton (lb/ton) of 100 percent H_2SO_4 produced.

C=concentration of acid mist or SO_2, g/dscm (lb/dscf).

Q_{sd}=volumetric flow rate of the effluent gas, dscm/hr (dscf/hr).

P=production rate of 100 percent H_2SO_4, metric ton/hr (ton/hr).

K=conversion factor, 1000 g/kg (1.0 lb/lb).

(2) Method 8 shall be used to determine the acid mist and SO_2 concentrations (C's) and the volumetric flow rate (Q_{sd}) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 1.15 dscm (40.6 dscf).

(3) Suitable methods shall be used to determine the production rate (P) of 100 percent H_2SO_4 for each run. Material balance over the production system shall be used to confirm the production rate.

(4) Method 9 and the procedures in §60.11 shall be used to determine opacity.

(c) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) If a source processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen, the following procedure may be used instead of determining the volumetric flow rate and production rate:

(i) The integrated technique of Method 3 is used to determine the O_2 concentration and, if required, CO_2 concentration.

(ii) The SO_2 or acid mist emission rate is calculated as described in §60.84(d), substituting the acid mist concentration for C_s as appropriate.

[54 FR 6666, Feb. 14, 1989]

Subpart I—Standards of Performance for Hot Mix Asphalt Facilities

§60.90 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]

§60.91 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Hot mix asphalt facility* means any facility, as described in §60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

[51 FR 12325, Apr. 10, 1986]

§60.92 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).

(2) Exhibit 20 percent opacity, or greater.

[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

§ 60.93 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.92 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity.

[54 FR 6667, Feb. 14, 1989]

Subpart J—Standards of Performance for Petroleum Refineries

§ 60.100 Applicability, designation of affected facility, and reconstruction.

(a) The provisions of this subpart are applicable to the following affected facilities in petroleum refineries: fluid catalytic cracking unit catalyst regenerators, fuel gas combustion devices, and all Claus sulfur recovery plants except Claus plants of 20 long tons per day (LTD) or less. The Claus sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(b) Any fluid catalytic cracking unit catalyst regenerator or fuel gas combustion device under paragraph (a) of this section which commences construction or modification after June 11, 1973, or any Claus sulfur recovery plant under paragraph (a) of this section which commences construction or modification after October 4, 1976, is subject to the requirements of this subpart except as provided under paragraphs (c) and (d) of this section.

(c) Any fluid catalytic cracking unit catalyst regenerator under paragraph (b) of this section which commences construction or modification on or before January 17, 1984, is exempted from § 60.104(b).

(d) Any fluid catalytic cracking unit in which a contact material reacts with petroleum derivatives to improve feedstock quality and in which the contact material is regenerated by burning off coke and/or other deposits and that commences construction or modification on or before January 17, 1984, is exempt from this subpart.

(e) For purposes of this subpart, under § 60.15, the ''fixed capital cost of the new components'' includes the fixed capital cost of all depreciable components which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following January 17, 1984. For purposes of this paragraph, ''commenced'' means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

[43 FR 10868, Mar. 15, 1978, as amended at 44 FR 61543, Oct. 25, 1979; 54 FR 34026, Aug. 17, 1989]

§ 60.101 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A.

(a) *Petroleum refinery* means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.

(b) *Petroleum* means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

(c) *Process gas* means any gas generated by a petroleum refinery process unit, except fuel gas and process upset gas as defined in this section.

(d) *Fuel gas* means any gas which is generated at a petroleum refinery and

(2) Each owner or operator of each storage vessel equipped with a vapor recovery and return or disposal system in accordance with the requirements of § 60.112a (a)(3) and (b).

[45 FR 23379, Apr. 4, 1980]

Subpart Kb—Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

SOURCE: 52 FR 11429, Apr. 8, 1987, unless otherwise noted.

§ 60.110b Applicability and designation of affected facility.

(a) Except as provided in paragraphs (b), (c), and (d) of this section, the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 40 cubic meters (m^3) that is used to store volatile organic liquids (VOL's) for which construction, reconstruction, or modification is commenced after July 23, 1984.

(b) Except as specified in paragraphs (a) and (b) of § 60.116b, storage vessels with design capacity less than 75 m^3 are exempt from the General Provisions (part 60, subpart A) and from the provisions of this subpart.

(c) Except as specified in paragraphs (a) and (b) of § 60.116b, vessels either with a capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure less than 3.5 kPa or with a capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa are exempt from the General Provisions (part 60, subpart A) and from the provisions of this subpart.

(d) This subpart does not apply to the following:

(1) Vessels at coke oven by-product plants.

(2) Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.

(3) Vessels permanently attached to mobile vehicles such as trucks, railcars, barges, or ships.

(4) Vessels with a design capacity less than or equal to 1,589.874 m^3 used for petroleum or condensate stored, processed, or treated prior to custody transfer.

(5) Vessels located at bulk gasoline plants.

(6) Storage vessels located at gasoline service stations.

(7) Vessels used to store beverage alcohol.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

§ 60.111b Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this subpart as follows:

(a) *Bulk gasoline plant* means any gasoline distribution facility that has a gasoline throughput less than or equal to 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal requirement or Federal, State or local law, and discoverable by the Administrator and any other person.

(b) *Condensate* means hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

(c) *Custody transfer* means the transfer of produced petroleum and/or condensate, after processing and/or treatment in the producing operations, from storage vessels or automatic transfer facilities to pipelines or any other forms of transportation.

(d) *Fill* means the introduction of VOL into a storage vessel but not necessarily to complete capacity.

(e) *Gasoline service station* means any site where gasoline is dispensed to motor vehicle fuel tanks from stationary storage tanks.

(f) *Maximum true vapor pressure* means the equilibrium partial pressure exerted by the stored VOL at the temperature equal to the highest calendar-month average of the VOL storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average

temperature as reported by the National Weather Service for VOL's stored at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum institute Bulletin 2517, Evaporation Loss From External Floating Roof Tanks, (incorporated by reference—see § 60.17); or

(2) As obtained from standard reference texts; or

(3) As determined by ASTM Method D2879–83 (incorporated by reference—see § 60.17);

(4) Any other method approved by the Administrator.

(g) *Reid vapor pressure* means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases, as determined by ASTM D323–82 (incorporated by reference—see § 60.17).

(h) *Petroleum* means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

(i) *Petroleum liquids* means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery.

(j) *Storage vessel* means each tank, reservoir, or container used for the storage of volatile organic liquids but does not include:

(1) Frames, housing, auxiliary supports, or other components that are not directly involved in the containment of liquids or vapors; or

(2) Subsurface caverns or porous rock reservoirs.

(k) *Volatile organic liquid (VOL)* means any organic liquid which can emit volatile organic compounds into the atmosphere except those VOL's that emit only those compounds which the Administrator has determined do not contribute appreciably to the formation of ozone. These compounds are identified in EPA statements on ozone abatement policy for SIP revisions (42 FR 35314, 44 FR 32042, 45 FR 32424, and 45 FR 48941).

(l) *Waste* means any liquid resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or recycled.

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

§ 60.112b Standard for volatile organic compounds (VOC).

(a) The owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa but less than 76.6 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa but less than 76.6 kPa, shall equip each storage vessel with one of the following:

(1) A fixed roof in combination with an internal floating roof meeting the following specifications:

(i) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

(ii) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:

(A) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

(B) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be

vapor-mounted, but both must be continuous.

(C) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

(iii) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(iv) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

(v) Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

(vi) Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

(vii) Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(viii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(ix) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(2) An external floating roof. An external floating roof means a pontoon-type or double-deck type cover that rests on the liquid surface in a vessel with no fixed roof. Each external floating roof must meet the following specifications:

(i) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. The closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. Except as provided in §60.113b(b)(4), the seal shall completely cover the annular space between the edge of the floating roof and tank wall.

(B) The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in §60.113b(b)(4).

(ii) Except for automatic bleeder vents and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface. Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal, or lid that is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. Rim vents are to be set to open when the roof is being floated off the roof legs supports or at the manufacturer's recommended setting. Automatic bleeder vents and rim space vents are to be gasketed. Each emergency roof drain is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(iii) The roof shall be floating on the liquid at all times (i.e., off the roof leg supports) except during initial fill until the roof is lifted off leg supports and when the tank is completely emptied and subsequently refilled. The process of filling, emptying, or refilling when the roof is resting on the leg supports shall be continuous and shall be accomplished as rapidly as possible.

(3) A closed vent system and control device meeting the following specifications:

(i) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, § 60.485(b).

(ii) The control device shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements (§ 60.18) of the General Provisions.

(4) A system equivalent to those described in paragraphs (a)(1), (a)(2), or (a)(3) of this section as provided in § 60.114b of this subpart.

(b) The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m^3 which contains a VOL that, as stored, has a maximum true vapor pressure greater than or equal to 76.6 kPa shall equip each storage vessel with one of the following:

(1) A closed vent system and control device as specified in § 60.112b(a)(3).

(2) A system equivalent to that described in paragraph (b)(1) as provided in § 60.114b of this subpart.

(c) *Site-specific standard for Merck & Co., Inc.'s Stonewall Plant in Elkton, Virginia.* This paragraph applies only to the pharmaceutical manufacturing facility, commonly referred to as the Stonewall Plant, located at Route 340 South, in Elkton, Virginia (''site'').

(1) For any storage vessel that otherwise would be subject to the control technology requirements of paragraphs (a) or (b) of this section, the site shall have the option of either complying directly with the requirements of this subpart, or reducing the site-wide total criteria pollutant emissions cap (total emissions cap) in accordance with the procedures set forth in a permit issued pursuant to 40 CFR 52.2454. If the site chooses the option of reducing the total emissions cap in accordance with the procedures set forth in such permit, the requirements of such permit shall apply in lieu of the otherwise applicable requirements of this subpart for such storage vessel.

(2) For any storage vessel at the site not subject to the requirements of 40 CFR 60.112b (a) or (b), the requirements of 40 CFR 60.116b (b) and (c) and the General Provisions (subpart A of this part) shall not apply.

[52 FR 11429, Apr. 8, 1987, as amended at 62 FR 52641, Oct. 8, 1997]

§ 60.113b Testing and procedures.

The owner or operator of each storage vessel as specified in § 60.112b(a) shall meet the requirements of paragraph (a), (b), or (c) of this section. The applicable paragraph for a particular storage vessel depends on the control equipment installed to meet the requirements of § 60.112b.

(a) After installing the control equipment required to meet § 60.112b(a)(1) (permanently affixed roof and internal floating roof), each owner or operator shall:

(1) Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel.

(2) For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be

emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) For vessels equipped with a double-seal system as specified in §60.112b(a)(1)(ii)(B):

(i) Visually inspect the vessel as specified in paragraph (a)(4) of this section at least every 5 years; or

(ii) Visually inspect the vessel as specified in paragraph (a)(2) of this section.

(4) Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in paragraphs (a)(2) and (a)(3)(ii) of this section and at intervals no greater than 5 years in the case of vessels specified in paragraph (a)(3)(i) of this section.

(5) Notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs (a)(1) and (a)(4) of this section to afford the Administrator the opportunity to have an observer present. If the inspection required by paragraph (a)(4) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance or refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(b) After installing the control equipment required to meet §60.112b(a)(2) (external floating roof), the owner or operator shall:

(1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.

(i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

(ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.

(iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:

(i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.

(ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of

this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.

(4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:

(i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 Cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.

(A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.

(B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(ii) The secondary seal is to meet the following requirements:

(A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm^2 per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of §60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

(c) The owner or operator of each source that is equipped with a closed vent system and control device as required in §60.112b (a)(3) or (b)(2) (other than a flare) is exempt from §60.8 of the General Provisions and shall meet the following requirements.

(1) Submit for approval by the Administrator as an attachment to the notification required by § 60.7(a)(1) or, if the facility is exempt from § 60.7(a)(1), as an attachment to the notification required by § 60.7(a)(2), an operating plan containing the information listed below.

(i) Documentation demonstrating that the control device will achieve the required control efficiency during maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and VOC content under varying liquid level conditions (dynamic and static) and manufacturer's design specifications for the control device. If the control device or the closed vent capture system receives vapors, gases, or liquids other than fuels from sources that are not designated sources under this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids received by the closed vent capture system and control device. If an enclosed combustion device with a minimum residence time of 0.75 seconds and a minimum temperature of 816 °C is used to meet the 95 percent requirement, documentation that those conditions will exist is sufficient to meet the requirements of this paragraph.

(ii) A description of the parameter or parameters to be monitored to ensure that the control device will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) Operate the closed vent system and control device and monitor the parameters of the closed vent system and control device in accordance with the operating plan submitted to the Administrator in accordance with paragraph (c)(1) of this section, unless the plan was modified by the Administrator during the review process. In this case, the modified plan applies.

(d) The owner or operator of each source that is equipped with a closed vent system and a flare to meet the requirements in § 60.112b (a)(3) or (b)(2) shall meet the requirements as specified in the general control device requirements, § 60.18 (e) and (f).

[52 FR 11429, Apr. 8, 1987, as amended at 54 FR 32973, Aug. 11, 1989]

§ 60.114b Alternative means of emission limitation.

(a) If, in the Administrator's judgment, an alternative means of emission limitation will achieve a reduction in emissions at least equivalent to the reduction in emissions achieved by any requirement in § 60.112b, the Administrator will publish in the FEDERAL REGISTER a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(b) Any notice under paragraph (a) of this section will be published only after notice and an opportunity for a hearing.

(c) Any person seeking permission under this section shall submit to the Administrator a written application including:

(1) An actual emissions test that uses a full-sized or scale-model storage vessel that accurately collects and measures all VOC emissions from a given control device and that accurately simulates wind and accounts for other emission variables such as temperature and barometric pressure.

(2) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(d) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emissions reduction as specified in § 60.112b.

§ 60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in § 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of § 60.112b. The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with § 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Keep a record of each inspection performed as required by § 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of § 61.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 61.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

(c) After installing control equipment in accordance with § 60.112b (a)(3) or (b)(1) (closed vent system and control device other than a flare), the owner or operator shall keep the following records.

(1) A copy of the operating plan.

(2) A record of the measured values of the parameters monitored in accordance with § 60.113b(c)(2).

(d) After installing a closed vent system and flare to comply with § 60.112b, the owner or operator shall meet the following requirements.

(1) A report containing the measurements required by § 60.18(f) (1), (2), (3), (4), (5), and (6) shall be furnished to the Administrator as required by § 60.8 of the General Provisions. This report shall be submitted within 6 months of the initial start-up date.

(2) Records shall be kept of all periods of operation during which the flare pilot flame is absent.

(3) Semiannual reports of all periods recorded under § 60.115b(d)(2) in which the pilot flame was absent shall be furnished to the Administrator.

§ 60.116b Monitoring of operations.

(a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.

(b) The owner or operator of each storage vessel as specified in § 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Each storage vessel with a design capacity less than 75 m^3 is subject to no provision of this subpart other than those required by this paragraph.

(c) Except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

(d) Except as provided in paragraph (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor vapor pressure values for each volume range.

(e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

(i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see § 60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

(ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

(3) For other liquids, the vapor pressure:

(i) May be obtained from standard reference texts, or

(ii) Determined by ASTM Method D2879–83 (incorporated by reference—see § 60.17); or

(iii) Measured by an appropriate method approved by the Administrator; or

(iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in §60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM Method D2879–83 (incorporated by reference—see § 60.17); or

(ii) ASTM Method D323–82 (incorporated by reference—see §60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specifications of § 60.112b is exempt from the requirements of paragraphs (c) and (d) of this section.

§ 60.117b Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: §§ 60.111b(f)(4), 60.114b, 60.116b(e)(3)(iii), 60.116b(e)(3)(iv), and 60.116b(f)(2)(iii).

[52 FR 11429, Apr. 8, 1987, as amended at 52 FR 22780, June 16, 1987]

Subpart L—Standards of Performance for Secondary Lead Smelters

§ 60.120 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the following affected facilities in secondary lead smelters: Pot furnaces of more than 250 kg (550 lb) charging capacity, blast (cupola) furnaces, and reverberatory furnaces.

(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

[42 FR 37937, July 25, 1977]

§ 60.121 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Reverberatory furnace* includes the following types of reverberatory furnaces: stationary, rotating, rocking, and tilting.

(b) *Secondary lead smelter* means any facility producing lead from a leadbearing scrap material by smelting to the metallic form.

(c) *Lead* means elemental lead or alloys in which the predominant component is lead.

[39 FR 9317, Mar. 8, 1974; 39 FR 13776, Apr. 17, 1974]

§ 60.122 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from a blast (cupola) or reverberatory furnace any gases which:

(1) Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

(2) Exhibit 20 percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any pot furnace any gases which exhibit 10 percent opacity or greater.

[39 FR 9317, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

§ 60.123 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.122 as follows: